AN ENDOGENOUS APPROACH TO EDUCATION

With Reference to Cairo - Egypt

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in

Architecture

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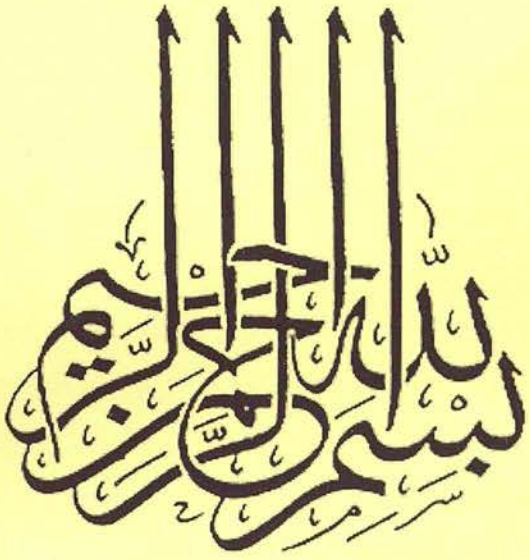

IN THE NAME OF ALLAH
THE MOST GRACIOUS, THE MOST MERCIFUL

Declaration

This thesis is my original work and has been composed solely by myself.
Sherif El-Fiki

eca
RESEARCH

Abstract of Thesis Form

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Thesis Title

AN ENDOGENOUS APPROACH TO EDUCATION
With Reference to Cairo - Egypt

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Abstract

The central focus of this research relates to the form that education should take in order to promote a desirable level and direction of development in Egypt. This firstly requires the identification of a model of development that is appropriate to Egypt before then going on to define the forms of education that support it. The researcher's own upbringing and knowledge of educational backgrounds in Egypt prompted him to learn more about this area of study with a particular emphasis on the architectural context of the learning environment and school design.

A major postulate of this research is that education is a subordinate component in a larger system of societies' development. This means that any educational policy should stem from a long-term strategy to support this aim. The present study examines a number of universal developmental theories against the history of development in Egypt. In analysing these models it is concluded that the endogenous approach is the most appropriate to the Egyptian context. Theories of education are studied to provide an educational strategy that fits into this approach. Further support is provided through addressing learning processes and human needs, particularly in connection with primary school children. Feedback was obtained through the use of a field survey and a case study, to confirm the relevance of these theories to the Egyptian context.

See reverse side for notes

The thesis consists of three parts and the conclusion. The first part introduces a background of the study. The second part sets the theoretical framework over three chapters. The first chapter tests a number of developmental paradigms against the endogenous model at the *state level.* The second discusses educational theories that support this model at the *local community level.* And the third chapter refers to the *individual level,* exploring the learning and needs of children.

The third part of the thesis is dedicated to the fieldwork. The aim of this part of the study was to generate direct feedback concerning the relevance of the studied theories to the Egyptian context. It employed an open-ended survey, investigating people's perception of these notions. The survey involved 84 teachers, parents and educational administrators, as well as 36 schoolchildren between the ages of nine and twelve. A case study is employed to illustrate the practical application of the research findings to schools.

In the conclusion, the results of the fieldwork are integrated with the theoretical aspects of the study to identify favourable conditions for education. The thesis demonstrates that favourable conditions are more likely to be achieved within an endogenous framework. Recommendations are made concerning the content and planning of the educational environment for children, towards the promotion of this approach to education in Egypt. Further research areas are suggested to support this concept within the Egyptian context.

Dedication

To my late Grandfather . . .
Who first introduced the architectural profession to our family

To my Father . . .
Who realised its most prosperous achievements & flourishing successes

To my Mother . . .
Who has been an integral part of the success of our three generations

Acknowledgement

First and foremost, all praise and thanks to Almighty Allah. By His will the completion of this thesis was made possible. May His blessing and peace be upon His Prophet Mohamed.

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Last, but not least, from the very bottom of my heart, I express my deepest gratitude to all of my family, who have coped with our separation and shared the burden of taking-over my duties towards them. I thank my father for his sponsorship of my studies. His moral guidance, architectural experience, and constant reassurance have always lit my way towards an appropriate destination. My mother's selfless giving, non-stop support, care, and sacrifice are undeniable. She has indeed been a hidden force behind this achievement. I would also like to extend my gratitude to my sister Rania, her husband Dr. Hatem Matar and their children Basma and Basel. Similar appreciation is due for my sister in law Maha and my nephews Omar and Youssef.

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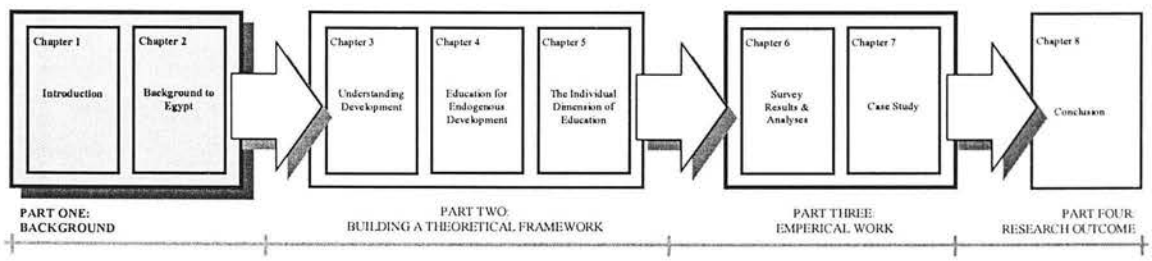
BACKGROUND

PART ONE

BACKGROUND

This part introduces the general background to the research. It consists of two chapters. The first chapter introduces the reasons behind initiating the research, and describes its objectives, methodology and structure. The second chapter introduces a background to the Egyptian context, as the country upon which the research focuses. This includes information on the general, historical and educational elements.



Chapter One

Introduction

Chapter One

Introduction

1.1 Research Inception

The role of education in modern society is increasingly complex. It concerns civic and moral values as well as the teaching of knowledge and skills. It needs to respond to immediate social and economic problems as well as ensuring long-term reinforcement of the advancement in every country. Yet, if one prime objective of education is to be propounded, under which all other goals are placed, this would be **'development'**; development as a holistic concept that goes beyond material growth to include all subjective and objective features for fostering personal and societal wellbeing.

Education is intended to prepare future citizens for the forthcoming forty years of active life. It should not be over-responsive to economic requirements, for example, at the expense of educational and social objectives. Education should prepare the individual as a citizen, a voter, a parent, a consumer and a worker at the same time, as someone who will be undertaking the future development of the country. Thus, **education should emerge from and respond to a long-term broad-based development strategy**.

Despite the huge investments in education in developing or less-developed countries, like Egypt, the objectives of formal education are not being met, with these countries remaining underdeveloped. This might be partly because the system produces high expectations and aspirations that many people cannot achieve; and partly because those sponsoring such investment do not have a clear image of the objectives behind this investment.

In spite of the important role of education, Dudek (2000) suggests that the present function of architecture in schools is less obvious in Britain. This is undoubtedly also the case in Egypt. Education, and its manifestation in school-buildings and learning-environments, has always been concerned with radical ideas set in new and stimulating settings for mass education, constantly reinventing ways to provide more educational places of ever-improving quality. This does not mean that the school building is the sole governing parameter in providing sound education, but if the learning environment is inappropriate it can be a serious hindrance to the success of education. Thus, it is of fundamental importance that **school designers grasp the evolving nature of education and transformations within their societies. Designers must understand the underlying driving forces in order to provide school designs that respond, in a progressive way, to the actual demands of their societies**.

This thesis was prompted by the researcher's background as an Egyptian architect with previous involvement in designing educational enterprises. Egypt has experienced serious under-development throughout the last century, and due to the critical role played by education in countries' development, this research was undertaken to learn about **the form that education should take to promote a desirable level and direction of development in Egypt**.

Egypt is the seventeenth most highly populated country in the world, with severe and concerning rates of urbanisation. Having been shaped on a socialist model, just after the 1952 revolution, and experiencing the heavy burdens of four consecutive wars, the Egyptian economy has borne a lot of backwardness. This is reflected in the standards of provided services. Egypt is experiencing a serious demand for the provision of more schools to overcome problems of overpopulation, multiple shifts, high classroom densities, high dropout rates, and the need to replace old buildings, including those damaged by the 1992 earthquake. Plans have been developed to provide these schools and are already in progress.

According to 1996 census, Cairo hosts the highest population in Egypt at 11.5% of the overall population, at a population density of 31,697 persons/km^2. Cairo is comprised of seven educational provinces, managing 3188 schools, out of which 1181 are primary, accommodating 754,048 students. Being the capital city, Cairo generally receives a

large share of developmental projects, with 23.57% of Egypt's total investment dedicated to Cairo. It is planned to build 578 schools in Cairo during the period 2002 - 2007, thirty-six of which are already under construction. From the above facts, it is clear that Cairo should be given high priority for examining the failures and successes of it's schools, hence any positive outcomes would be likely to benefit a larger population.

However, this is not a problem-oriented thesis, focusing on a specific problem of a specific case study. Neither is this thesis set out to simply produce general design guidelines. Good school design evolves out of a complex set of variables that are unique to each regional and social setting, and this is what this research investigates.

The main focus of the thesis is on the theories which have been propounded in the literature. Its major contribution is towards developing a theoretical framework that identifies an educational model which supports appropriate development in Egypt. Before doing this, it is important to establish a clear understanding of 'development' in the way it is dealt with in this research. This is achieved by introducing the different interpretations of development, and distinguishing them from the meanings of growth and change, as well as addressing different attitudes and approaches towards development in general, which favoured the balanced application of a bottom-up approach in parallel with a top-down approach.

To be able to judge a particular developmental paradigm, it is first appropriate to test it against other universal paradigms. The current research studied the theory of modernisation, the theory of dependency, the fragile state theory, the transitional state theory, and the market place approach, all of which were adopted in Egypt at different periods and have contributed to shaping its current underdeveloped status. Sustainable development, the currently world-wide fashionable theme, is also introduced and analysed. It is a very broad multidisciplinary notion, and almost any group can find their own interest somewhere within sustainable development. This makes it possible for competing or even contradicting groups to take part in it, e.g. the contradiction between population control and some religious ideals. Therefore, it is hard to go against it in a general sense, but also not possible to think of it as a holistic approach due to the objectification causing such contradictions.

Having studied these approaches, with their educational and architectural implications, it was possible to test the endogenous approach against them. This approach is defined as the progress through which a concern is given to indigenous knowledge, and the internal potential powers of people. On the one hand it is principally based on indigenous resources and knowledge, and on the other hand upon public participation and sharing.

Indigenous knowledge is the systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments, and intimate understanding of the environment in a given culture. Its successful applications and limitations are discussed. The most significant properties of IK are the holistic nature, wide applications and flexible dynamic evolution. Yet, participation is extremely important for development that it is rare these days to find a document on development which does not refer to it. Participation should not remain limited to lofty political ideologies; it must emerge from within the people at grassroots.

Theories of education are studied to provide an educational strategy that fits into this approach. This was found to be **'indigenous community-based education'**. It was studied referring to its indigenous features and sharing applications in relation to the Egyptian context, with the support of actual experiences of communities who have undertaken this type of program.

Although this educational paradigm emphasises the significance of indigenous knowledge, laying emphases on indigenous education must not be interpreted as purely local and closed. It requires balance between an awareness not to endanger the potential for evolving cultural identities, as a rich range of alternatives, by assimilation to the extent of cultural loss, and the danger of cultural isolation that bans people from exchanging benefits and experiences with other cultures. Direct contact with nature is praised by this approach, in that it empowers moral, religious symbolic and cultural references amongst individuals and communities.

Being rooted in community schooling, this approach depicts the expansion of the school into the outer world and the penetration of the outer world into the school as complementary processes. Both are necessary to achieve reality and effectiveness in education. Thus schools have to contribute to social demands, and all local community

bodies have to fulfil their role towards the school. There should be a mutual support between school and society, from local institutions to parents, and even children. Closely-knit in-school relations are of special importance in promoting such modes. The discussion shows that much can be accomplished by small groups with great commitment. The challenge is how to expand these efforts to wider contexts and higher levels.

Learning processes and human needs, in connection with primary school children, are studied to provide an in depth understanding of children and their developmental needs. Theories of cognitive development show that the human brain-structures witness the most intensive development at this age, which accordingly, highlights the significance of providing appropriate education at such critical stage of human life. It is shown according to Maslow that there are two hierarchies of human needs, i.e. basic and cognitive. **'Humanistic education'** is the model proposed to respond to basic needs, where **'active learning'** is relevant to cognitive needs.

Both of these paradigms are studied with their educational implications and design requirements. Both of them emphasise the significance of play learning, music, movement subjects, and free play and interaction with the environment for conscious and unconscious learning. This achieves better reciprocal dependency and social interaction in an enjoyable atmosphere.
They also expressed a strong tendency towards locality, participation and active social and environmental interaction to regain connection with the local environment. They confirm that increased interaction with the environment considerably enriches the child's experiences. Open plan design responds to both principles of active learning and humanistic education.

A field survey confirmed the relevance of these theories to the Egyptian context. In this survey, the school administrators, teachers, parents and schoolchildren responded to **open-ended interviews and questionnaires**, to freely express their views of the role of schools, and the nature of development as they perceive it. The survey analysis showed the vocabulary of the endogenous approach to be strongly grounded and highly favoured in Egyptian people's thoughts.

A case study is employed to illustrate **the practical application** of the research findings to schools, as applied to the new primary schools' program in Cairo.

Finally the conclusion of the present research integrates the results of the fieldwork with the theoretical findings of the study to identify favourable conditions for education. The conclusions also set recommendations for the content and planning of the educational environment for children towards the promotion of endogenous development in Egypt.

1.2 Research Objectives

The above ideas have led to the formation of a number of objectives which the thesis intends to achieve. The central question of the research is finding an appropriate form that education should take in order to promote a desirable level and direction of development in Egypt. The research puts forward the following objectives, which will be approached to achieve an answer to this question.

- Knowing the Egyptian context to be able to set developmental and educational strategies that respond to Egyptian settings.
- Understanding 'development' and investigating the appropriate developmental paradigm for the Egyptian context.
- Finding the appropriate educational model that supports this paradigm for Egyptian communities.
- Understanding individual needs and learning mechanisms to make sure the proposed strategy complies with them, and hence achieves the required development.
- Confirming the relevance and applicability of this proposed approach to the actual context in Egypt.
- Introducing recommendations for promoting an educational developmental approach in Egypt.

1.3 Research Methodology

The methodology undertaken in this research stems from its objectives. The main aim is to find an educational approach that promotes favourable development in Egypt. To do so, the research first investigates the **background** of Egypt, to be able to build any developmental or educational models on a sound basis. Next a theoretical framework is built at three levels. First, at the **'state level'**, the research tests a number of developmental paradigms against the endogenous approach, within the context of

Egyptian history of development. Second, the thesis moves to the **'local community level'**, where it discusses educational theories that support this approach, referring to the meanings and ways of maintaining and revitalising local culture and public sharing in school domains. The third level is the **'individual level'**, in which the study explores learning and the needs of children.

In the subsequent part, the research **empirically** tests the relevance of the developed theoretical framework to the actual Egyptian context. To do this, an open-ended questionnaire was designed and distributed to 84 teachers, parents and educational administrators. Another simplified version was designed to involve 36 schoolchildren between the ages of nine and twelve. After collecting the responses, qualitative analyses were applied to interpret the responses and to reach an understanding of people's perception of school's role in the Egyptian community. This expressed a significant adherence to the endogenous approach. A case study was also undertaken to show ways of applying the research findings onto actual schools, as applied to the new primary schools' program in Cairo.

Finally, the research conclusion integrates the results of the fieldwork with the theoretical findings of the study to distil the main messages at the state, community and individual levels. Then a list of recommendations that emerged from the previous study could be introduced to promote educational policies and practices that support endogenous development in Egypt.

1.4 Research Structure

The thesis consists of four parts. The **first part** is introductory, which includes, in addition to this chapter, another one dedicated to studying Egypt's general, historic and educational backgrounds.

Part two builds a theoretical framework in three chapters. The first concerns understanding development. The different meanings, attitudes, and approaches to development are analysed; the endogenous approach is then tested against a number of universal developmental paradigms, which have been adopted in Egypt. It ended up with the endogenous approach, based on indigenous resources and sharing, being appropriate for Egypt.

The second chapter sets forth an understanding of the type of education needed to promote endogenous development. It introduces the notions of local culture and civilisation, as well as their variables and educational influences. Then it investigates the indigenous and sharing features of the 'indigenous community-based education' theme, as well as some of its approaches, models and applications.

The third chapter in this part studies the individual dimensions of education, based on Maslow's hierarchy of human needs. The humanistic education model he suggested to respond to basic needs is studied, as well as Elkind's model of active learning, responding to cognitive needs. The implications of both models to the learning environment are addressed, together with other aspects of the learning environments.

The third part of the thesis is dedicated to the fieldwork. The aim of this part of the study was to generate direct feedback concerning the relevance of the studied theories to the Egyptian context. In Chapter Six an open-ended survey was designed and qualitatively analysed and interpreted. This showed the theoretical findings to be strongly grounded in Egyptian people's perception. Chapter Seven employs a case study to show the applicability of the developed approach to primary schools in Cairo.

Finally, **part four** concludes the main message of the theoretical and empirical work. A list of recommendations is distilled from the theoretical and empirical findings, to direct the educational practices towards promoting endogenous development in Egypt.

The following figure (1-1) graphically represents this structure.

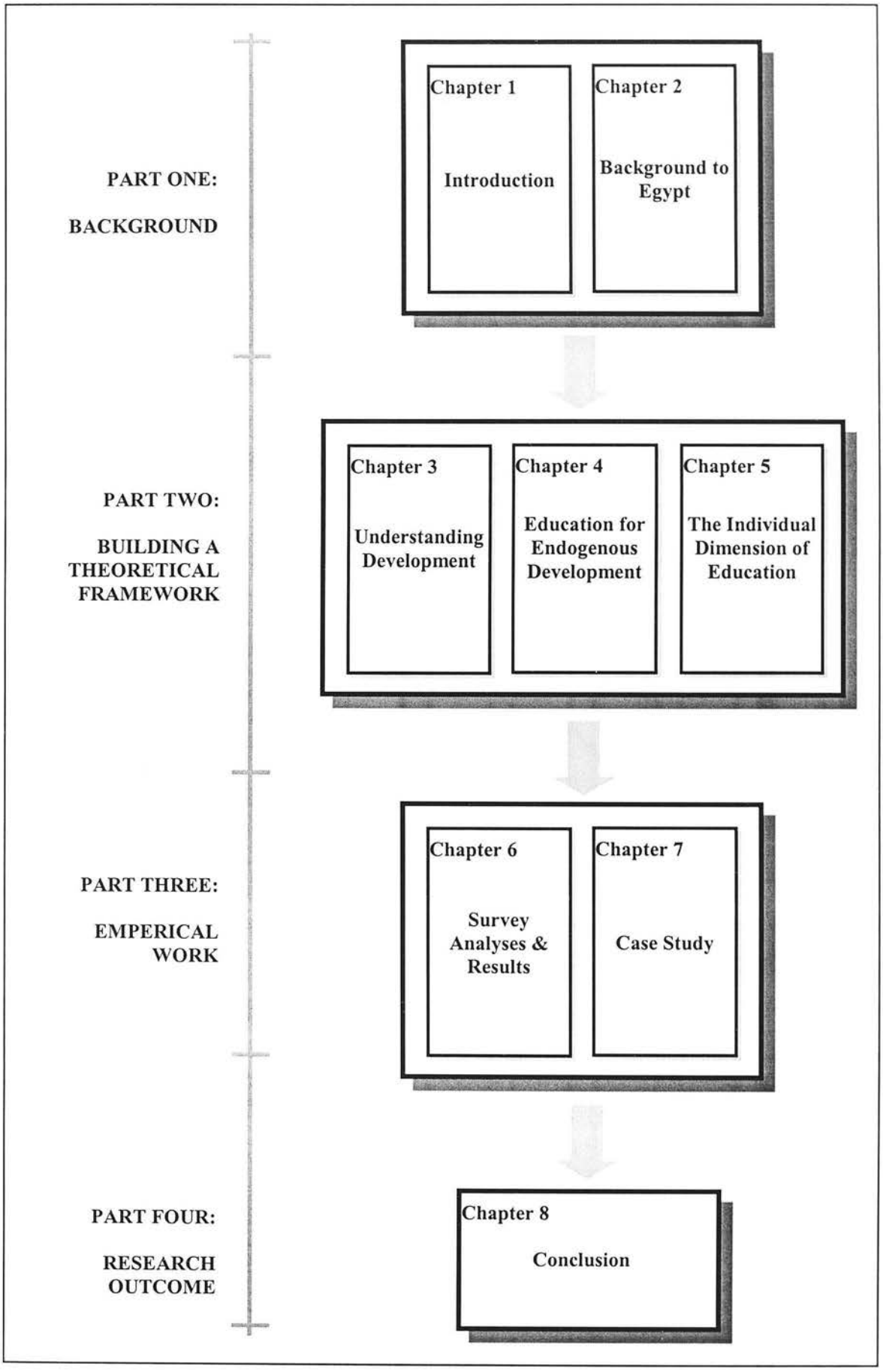
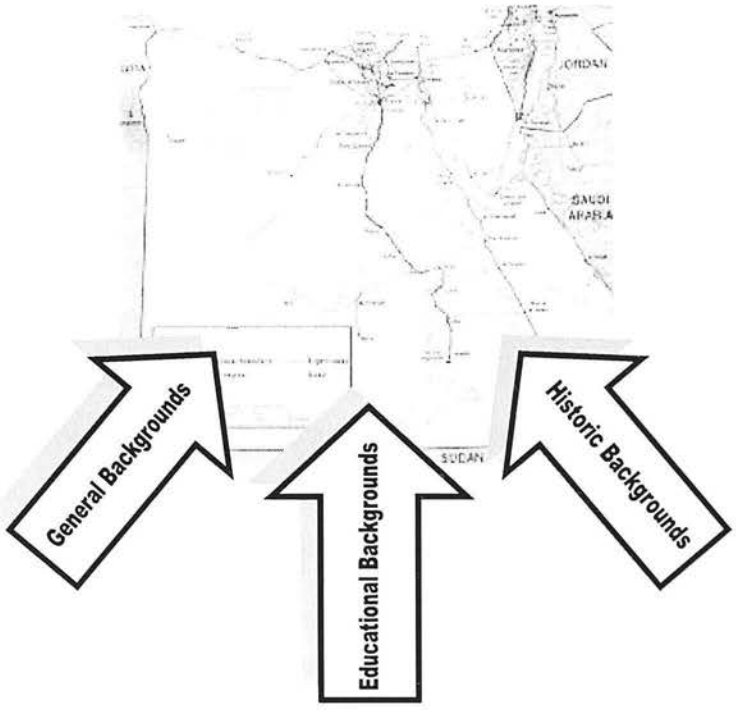


Figure (1-1) The research structure.

CHAPTER TWO



BACKGROUND TO EGYPT

Chapter Two

Background to Egypt

2.1 Introduction

To understand the relationship between education and development within the Egyptian context, it is important first to shed light on the components and characteristics of Egypt, to become familiar with the roots out of which the current situation emerged, and to achieve a better understanding of it.

To achieve this goal, three main areas are studied, the general background, historical background and the educational background. General background information sheds light on geographic description, climatic settings, population, culture, and political and economic aspects. The historic background studies the evolution of domestic societal and educational circumstances towards defining the important transitions that affected education as well as the reflections in people's lives. The section exploring the educational background describes the current educational system and context in Egypt.

2.2 General Background

Under this section, the research introduces for the characteristic geography, climate, population, culture, economy, and political system in Egypt.

2.2.1 Geographic Description

Egypt lies between latitudes 22° - 32° N, and longitudes 24° - 37° E, that is the north-eastern corner of Africa; occupying a unique central location among the world, and the old-world particularly i.e. Asia, Africa, and Europe. Egypt is bounded by Libya from the west and Sudan to the south, overlying the Red Sea from east, the Mediterranean to the north, and controlling the strategic Suez Canal connecting them. The north-eastern

boarders are common with Palestine and Israel (SIS, 1998). This is illustrated in Figure (2-1) below.

The overall area of Egypt is 1,002,000 km^2. The greatest distance from north to south is 1024 km, and from east to west is 1240 km, which imposes an almost square outline (Hamed, 1994).

Figure (2-1) Map pointing out Egypt's location and boarders (Atlas of the World, 2000).

Egypt can be divided into four main regions, basically determined by the Nile path. The first is Nile Valley and Delta, which is the narrow strip extending along the Nile banks, and is the most highly populated region. The second and third are the Eastern and Western Deserts, extending along both sides of Nile valley, at a combined area of about 87% of Egypt's total area, where the fourth is Sinai Peninsula (SIS, 1998).

Where Hamed (1994) reports only 3.6% of Egypt's overall area to be inhabited, it is to be noted within this context, that the desert is a symbol of death for most Egyptians. Historically, the ancient Egyptians have built their tombs in the desert, while their life flourished on the Nile banks. This could be a reason is why most Egyptians have little experience with deserts (Abou El-Ela, 1996).

The Nile valley is vertically divided in two parts, Upper Egypt that is the southern part, and Lower Egypt which starts at 25km to the north of Cairo. Nile Delta [of Lower Egypt] starts at a point where the River forks into the two branches of *Rosseta* and *Damietta*, and extends until the river mouth at the Mediterranean Sea. The width of the Nile varies from 2km to a maximum of 15km at Kom-Ombo to the south of Egypt (Hamed, 1994).

2.2.2 Climate

Egypt lies within the dry tropical climatic region, except for the northern areas that lie within the warm moderate region with a semi-mediterranean climate. Typically summers are hot and dry and winters are moderate with little rainfall (SIS, 1998).

The Egyptian climate is generally characterised to be bi-seasonal with short winters from November to April, and longer summers from May to October, sometimes with short transitional periods in between (Metz, 1991).

Although the dominant wind direction in Egypt is north and north-west, a phenomenal southern hot and sandy spring wind named *Khamasin* blows across the country between March and May (ibid.).

Rainfall levels in Egypt is relatively low, being more concentrated in high eastern mountains and northern coasts, generally decreasing southwards (SIS, 1998).

The following table (2-1) shows temperature, humidity, and rainfall levels for different zones of the country.

Zone	Season	Temperature (°C)		Humidity %	Rainfall (mm)
		Max	Min		
Cairo [Central zones]	Winter	19.4	9.0	59	24.3
	Summer	34.8	22.5	56	-
Alexandria [North coast]	Winter	18.3	9.1	70	196.7
	Summer	29.6	22.6	72	-
Aswan [Upper Egypt]	Winter	22.7	8.5	39	1.2
	Summer	41	25.8	18	-

Table (2-1) Temperature, humidity, and rainfall rates in different zones of Egypt (CAPMS, 1997).

2.2.3 Population

Egypt ranks seventeenth among the world's countries in order of population. The 1996 census reveals a population of 59.3 million persons in Egypt, at an annual population growth of 2.1%[1], a birth rate of 27.4/1000 persons, and an average family size of 4.6 persons. 19.9% out of the overall population [i.e. 11.7 millions] are in basic schooling age, 6-15 years old (CAPMS, 1997).

The majority of Egypt's ethnic structure is homogeneous Egyptians, in addition to few minorities of Bedouin tribes living in Sinai, and Eastern and Western[2] Deserts. In the south live other few Nubians originally migrating from north Sudan. Arabic is the official language of the state, where English and French are commonly spoken among a

[1] 61.4 millions at the rate of 1.9% in 1998 due to the World Bank report of 1999.

considerable proportion of Egyptians (Bremner, 1995). Nubian and Amazigh minorities have their own languages only known and used amongst their tribes. A majority of about 90% of the Egyptian population are Muslims, where about 8% are Orthodox Christians, and the rest embrace other Christian sects (Metz, 1991).

The overall population density is 59 persons/km^2, while the severe urbanisation rates raise it to 31,697 persons/km^2 in Cairo for example, which occupies 0.06% of Egypt's overall area, and hosts the highest population in Egypt at 11.5% of the overall population (ibid.). The urban population in cities and towns is 44% according to the 1986 census, compared to 28% in 1937 (Hamed, 1994). This phenomenon started with increasing migration from rural to urban areas, as a result of the growing gap between them in terms of services, infrastructure, and profitable career opportunities. However, a trend of setting new towns has been adopted by the State since the 1970s to deal with this problem. This project established nineteen new satellite and independent cities, according to the same census, parallel with development projects and growth in services across rural undermined areas (SIS, 1998).

More recently, large-scale projects were undertaken to redistribute the population and extend urbanisation from the current 5.5% up to 25% by the completion date of these projects. The most important of these is 'The Project of Developing Southern Valley', cultivating vast areas in *Toshka* through an artificially extended canal [named *Shaikh Zayed*] branching from the Nile stream. Another cultivation project is taking place in *East Owainat* and *Darb El-Arbe'ien*, through subterranean irrigation water. *El-Salam Canal* is another constructed Nile branch to conduct water to Sinai Peninsula (CAPMS, 1997).

2.2.4 Culture and Traditions

Due to its distinctive geographic location, Egypt has always acted as a focal point of attraction to many empires. It was conquered and invaded by many armies, who brought with them their different cultural influences. In spite of that, Egypt has survived and could demonstrate a unique capability to sustain and evolve its traditional culture while blending with different cultures transferred by Circassians, Turks, French, and British,

[2] Tribes of Western Egyptian Desert descend from Amazigh [Berber] origins. Other Amazigh tribes also live in Algeria, Canary Islands, Libya, Mali, Mauritania, Morocco, Niger, Tunisia, and The Diaspora (see the World Amazigh Action Coalition web-site www.waac.org).

having the power to selectively assimilate the incoming elements into its context (Hamed, 1994).

Describing the Egyptian culture, Abou El-Ela quotes:

> *"it seems much more appropriate to classify Egypt as a* ***Middle East*** *country that lies within the arid zone with an* ***African*** *location, a* ***Mediterranean*** *affection,* ***Muslim*** *religion and* ***Pharaonic*** *history"* (Abou El-Ela, 1996: p. 42)

Nothing is more remarkable about Egyptian features than their religious pride. Most Egyptian beliefs are shaped by religious thoughts and ideas, that the well-known Greek historian Hetrodotus describes Egyptians as *"The most religious of all men"* (Wassef, 1983: p.193).

Egyptians' socio-cultural considerations are a product of strongly held religious beliefs by both Muslims and Christians. These act as a source of spiritual force that maintains the uniqueness of the Egyptian character, and its significant impact on cultural codes, behavioural values, norms, beliefs and attitudes. Egyptian religious psychology is more a means for social interaction than a ritualistic characteristic, an example to this is the joint celebrations of all Egyptians in Muslim and Christian feasts (Abou El-Ela, 1996). This religious commitment was, to some extent, affected by the introduction of the modernist, socialist and market models propagating for secularisation in favour of all religious proclaims and values in certain eras of Egypt's modern history, as explained in following sections of the research.

Religion had a particular influence on Egyptians' historic appreciation for learning and knowledge. Since Islamic rituals are basically conveyed to believers in the Holy Qur'an and the Prophet's sayings, Muslims ought to learn how to read and understand them, to make sure they follow the word of God encountered in Qur'an and revealed by Prophet Mohamed's Hadith. Moreover, education enables better understanding of the cosmological and natural phenomena, which provide deeper conviction of divine capability, power and Oneness.

The special significance of learning in Islam can be concluded from having the first Qur'anic order God conveyed to His Prophet Mohamed as *Iqra'* which means read. No less emphasis has been laid in the Prophet sayings confirming the sacred nature of education. In the following Hadith, Islam made learning a religious obligation equally on both genders.

> *"Seeking knowledge is a duty on every Muslim male and female." - Ibn Majah* (Sakhr, 1991)

And to further encourage people seek education, he said:

> *"Whoever takes a rout acquiring knowledge, God will ease a way for him towards paradise ... A scholar is advantaged than a worshipper, as the moon is advantaged on other planets..." - Ibn Majah, Abu Dawud, & Ahmed* (Sakhr, 1991)

Setting up education in the mosques for free has principally made it available for everyone, and implied its sacred meaning, being accompanied by prayers and worship. In another encouraging step to expand the number of educated Muslims, the Prophet allowed the release of war captives if they taught Muslims to read and write (Nashabi, 1980).

Not only is knowledge acquisition a religious duty in Islam, but its promulgation is of equal importance, to preserve and develop the knowledge of mankind. Prophet Mohamed said in that regard:

> *"Whoever is asked about knowledge he knows and suppresses it, would be bridled by fire in the Judgement Day" – Ahmed* (Sakhr, 1991)

The emphasis Islam places on acquiring knowledge is clear, and people have genuine affection to comply, but as previously mentioned with the rest of Islamic practises, the oppression that Egyptians experienced under different ruling regimes hindered this affection, resulting in the current shameful illiteracy rates, [see '2.4.4 Current State' below].

Egyptian culture shares other values with Arab traditions, like conservative attitudes, friendliness and welcoming, that hospitality and solidarity are sacred to them, particularly in the countryside. What is more characteristic is that Egyptians are quite witty with a high natural tendency towards good humour (Wassef, 1983). Besides the religious influences discussed above, one of the key characteristics of Egyptian culture is an intense pride of belonging to their land (Abou El-Ela, 1996). Additionally, Egyptians have a very special appreciation for family bonds. This appears in feasts and celebrations where they all exchange visits and invitations (Caselli, 1992).

2.2.5 Political System

Egypt has been proclaimed a republic after its independence from British occupation. The Egyptian constitution delegates the majority of executive power to the President,

who appoints one or more Vice-presidents and a Prime minister, and approves Cabinet appointments (SIS, 1998).

As for the legislative authority, it is being run under two major councils, the first is *People's Assembly*, that is the Egyptian Parliament. It encompasses 444 elected members and ten presidentially appointed, 50% of these members at least should be workers and peasants (Bremner, 1995). The other is a consultative council named *Shura Council*, which encompasses 264 intellectual and senior expert members out of which one third is presidentially appointed. This council is mainly concerned in producing studies and recommendations on issues related to state policy (SIS, 1998).

Where, on the non-central administration level, Egypt encompasses twenty-six governorates plus the city of Luxor, recently proclaimed a special-case city, each of these governorates includes a number of main cities known as '*Centres*', as well as other smaller cities and villages. Each governorate has its own *Local People's Council* that acts as a local parliament, having the same role as the *People's Assembly* but limited to the level of its governorate (ibid.).

2.2.6 National Economy

Having been shaped in a socialist model just after the 1952 revolution, and experiencing the heavy burdens of four consecutive wars, the Egyptian economy has borne a lot of backwardness. Such backwardness is reflected in the standards of services provided by the State like health and education. Influences on education are thoroughly discussed in '2.4' hereunder. The health service was seriously declining too and was mostly concentrated in larger cities. However, the 1998 statistics outline some improvement, in that infant mortality rate was cut down to 51/1000, and average life expectancy got to 66 years (WB, 1999).

The economic reform policy that started in 1991 achieved a notable reduction in both the annual inflation rate to about 4% in 1998 [having exceeded 21% in 1991], and the general budget deficit to less than 1% (Ismail, 1998). Moreover, the Gross Domestic Product [GDP][3] is reported to be US$84.3bn, at 5.7% average annual increase. The Gross National Product [GNP][4] in Egypt reached US$79.2bn in 1998, which is US$1290 per capita at an average annual growth of 4.5% (WB, 1999).

[3] See 'Glossary' for definition.
[4] See 'Glossary' for definition.

The following figure (2-2) shows the main features of the Egyptian economy, outlining the contribution of each sector to GDP. In addition to petroleum and natural gas, the principle mineral resources available in Egypt include iron ore, phosphates, manganese, limestone, gypsum, talc, asbestos, lead, and zinc (Bremner, 1995).

Agriculture has been the oldest occupation that inspired ancient Egyptians to settle by the banks of the Nile, obtaining advantage from the Valley and Delta fertility, the river water for irrigation, and the moderate climate. The main crops produced in Egypt are cotton, rice, corn, wheat, vegetables and fruits (Metz, 1991). Desert land cultivation programs have been in process for about three decades now, and are achieving notable progress. However, the World Bank report of 1999 points out agricultural contribution to the national economy as 16.7% of Egypt's GDP, at an annual growth rate of 2.6%.

State concern for industrialisation grew considerably after the revolution of 1952. The industrial share in Egypt's GDP has reached 33% at an annual growth of 5.6%, besides the manufacturing contribution of the 26.3% at the growth rate of 5.2% (WB, 1999).

Egypt has a number of large industrial sectors, like spinning and textiles, petrochemicals, iron and steel products, aluminium, and cement; besides manufacturing some consumer goods and food processing (Bremner, 1995). More recently, car manufacturing is widely spreading in Egypt, that about ten American, European and Asian motor companies have launched car factories in Egypt.

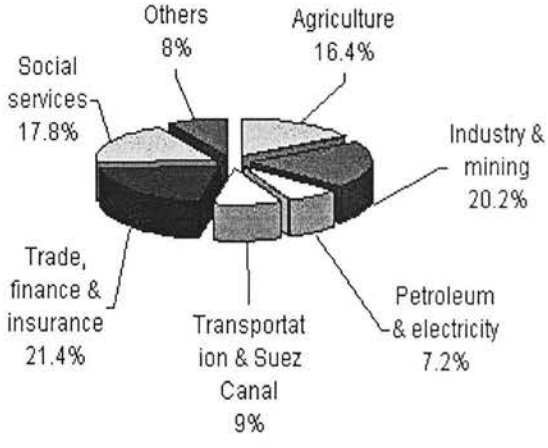


Figure (2-2) Sector contribution to GDP in Egypt in 1999 (EBCC, 2000 - Sources: EIU Country Report, Business Monitoring International, Oxford Business Group and other international reports).

Tourism has become one of the most profitable disciplines in the annual budget, [US$3.8bn in 1997, that is almost 13.8% of that year's income] making use of the valuable heritage left by consecutive civilisations living in Egypt. In addition to beach tourism, on coasts of the Mediterranean and Red Seas (Ismail, 1998).

The Suez Canal is about 160km long linking the Red and Mediterranean Seas, capable of handling ships up to 150,000 dead-weight tons laden and 16 meters draft. Canal revenues contribute a major part to the State's budget. In 1987 for instance, 17,541 ships traversed the Canal with 257,000 tons of cargo in, earning Egypt US$1.22bn there (Metz, 1991). Canal revenues in 1997/98 achieved 9.3% of the country's income (Ismail, 1998).

As for international trade, Egypt has spent a total amount of US$13.5bn on imports in 1998, where the export revenues of that year were only US$5.3bn. This clearly reflects an unbalanced import/export ratio (WB, 1999). The major exports are petroleum, cotton, and manufactured goods, whereas imports are mostly foodstuff, machinery and transport equipment, paper and wood products (Bremner, 1995). The Egyptian-British Chamber of Commerce reported exports of goods to be US$7.1bn at 35% increase, where imports were US$17.6bn at 15.8% increase over 1999.

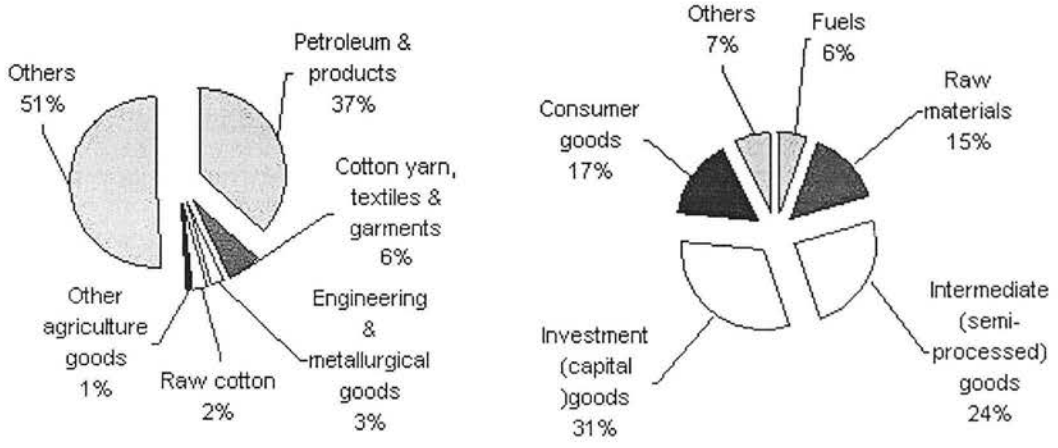


Figure (2-3) Egyptian exports [to the left] and imports [to the right] in 1999 (EBCC, 2000 - Sources: EIU Country Report, Business Monitoring International, Oxford Business Group and other international reports).

2.3 Historical Background

Archaeological findings show that primitive tribes lived along the banks of the Nile since man first settled in the region. Organised agriculture was established around 6000BC, at the very early beginnings of Pharaonic civilisation in Egypt (Bremner, 1995). Due to its unique location and nature, Egypt has attracted many civilisations, including Pharaonic, Greek, Roman, Coptic and Islamic, which have all contributed to Egypt's distinctive and deep-rooted rich history (SIS, 1998).

The following discussion introduces these historic eras. The Historical background is given wider scope in this chapter due to its significant influence and supporting role in the present research. In response to the main theme of this research, dealing with education, this discussion will be primarily driven through the educational context of each era, where significant transitions or characteristic aspects occurred. It is also to be noted that a chronological illustration of Egypt's history is outlined in 'Appendix A' of this thesis.

2.3.1 Ancient Egypt

This section will outline the history of the Pharaonic eras (3200-332BC), the Macedonian-Ptolemaic era (332-30BC), and the Roman-Byzantine era (30BC-640AD).

The ancient Egyptians expressed high interest in education, as confirmed by archaeological discoveries, and reflected to their significant achievements. One of those findings was a will written by an ancient Egyptian sage to his son, in which he quotes:

> *"Keep your mind open to writing and education, ... there is nothing more precious in life"* (SIS, 1998: p.24).

Pharaohs have composed a twenty-four letters *Hieroglyphic Language* and fluently practised engineering, architecture, geometry, astronomy, medicine, anatomy, and mummification; as well as the arts of music, drawing, sculpture, and story-writing and myths (ibid.). One example of such excellence is Giza Pyramids[5]. The Egyptians' astronomical supremacy enabled them to set the pyramid's sides precisely parallel to the four main directions. With its main entrance facing the Polestar, the solar reflection on its faces could accurately indicate the Equinoxes which have special importance for agriculture. Precise positioning on such a large scale implies a unique geometrical and architectural expertise. This is particularly impressive with respect to their use of masonry blocks of 2½ tons average weight, necessitating advanced building technology to elevate them to the 146m high pyramid-top, and place them in the right position (Abd El-Gawad, 1983).

From their findings, Egyptologists could tell that schools of that period were built of unburned bricks and attached to temples. They consisted of a main study hall, courts and a columns-hall. The statue of the 'god of sciences' used to be centred in the study hall,

[5] Known as one of the Seven World Wonders. The biggest of these pyramids is 481' high with a square base of 756' side-length (Edwards, 1989).

with the teachers' seats and book boxes on the boarders. Study duration used to be four years for both male and female students (Saleh, 1966).

The Macedonian era started when Alexander the Great of Macedonia came to Egypt in 332BC, and established the city of Alexandria. The city contained a science house, library, gymnasium, court, and the Lighthouse that is one of the Seven World Wonders (SIS, 1998). This period was very rich in terms of scientific and intellectual movement, primarily with the establishment of Alexandria library [*Bibliotheca Alexandrina*] in the fourth century BC until being burned down in a disastrous fire more than 1600 years ago[6]. This library was the largest of that age with the first full catalogue of all its 700,000 manuscripts. It was also the world's first university. Amongst its scholars were famous figures like Euclid, Erastosthenes, Heron and Archimedes. This placed Alexandria, and consequently Egypt, at the centre of the intellectual and cultural Hellenic World (UNESCO & UNDP, 1999).

The following period started in 305BC under Ptolemies' rule, and witnessed the establishment of the school of medicine in Alexandria in 280BC, as well as the development of advanced studies in botany, zoology, geometry, mathematics, and astronomy (SIS, 1998). In this era, the Egyptian Queen Cleopatra-VII allied with Julius Caesar and Mark Anthony to secure her throne. But this reign ended with her famous suicide after being defeated by Augustus in the battle of Actium in 30BC (Caselli, 1992).

The Roman-Byzantine Era extended between 30BC and 640AD. This era included the commonly named Coptic Era[7]. The Romans set up large numbers of schools in Alexandria and Upper Egypt. In spite of their similarity to Pharaonic schools, they were the first to dedicate separate schools for foreign students (Shonouda, 1967).
Habib (1966) says that schools were first attached to churches and abbeys, until the second century when missionary schools started to be established independently, to teach Christian religious instruction.

[6] Recently revived and reopened under the auspices of UNESCO in collaboration with Egyptian authorities.

2.3.2 Early Islamic Eras

This section introduces the period from the early years of Islam, passing through the reigns of the Umayyads, Abbasids, Tulunids, Ikhshids, Fatimids and Ayyubids.

It is known that the first Islamic school was the Prophet's Mosque in Madina - Arabia This was built for prayers and propagating the rudiments of Islam, as well as to teaching Muslims how to read and write. In Egypt, the Mosque of Amr Ibn El-Aas was the first mosque and Islamic school, being built just after the Islamic conquest to Egypt in 639AD, and Ahmed Ibn Tolon's came second (Ghouli, 1991).

The establishment of *Kuttabs* or *Maktabs* as places for learning started later when wealthy families began to hire tutors or send their children to teachers' homes, to teach them Qur'an, Hadith, poetry, and the elements of reading, writing and arithmetic (Cameron & Hurst, 1983). *Kuttab* builders were either people who looked for some profit, or wealthy people who made them as *Waqf* [charity], spending their revenues on developing levels of higher education (Fiki, 1997).

As the Islamic State grew, the great theological teachers established themselves at mosques in Egypt, Syria, Iraq, and some other Islamic provinces. Students headed to these schools from far and wide to acquire knowledge (Cameron & Hurst, 1983). These were named *Madrassahs*, i.e. higher theological colleges or institution for adult education, where students used to sit in semi-circles around their tutor, who would sit on a central wooden bench. Such Madrassahs usually comprised a number of *Iwans* [booths] surrounding a central courtyard. Some of them had accommodation for students and teachers (Khafaji, 1987).

Under the Fatemid rule 969-1171AD, Cairo first became the capital city of the State, after the Umayyads' rule in Damascus 661-750, Abbasids' in Baghdad 780-868, Tulunids 868-905, and Ikhshids 935-969 (Caselli, 1992).

Following the Umayyad and Abbasid lines, Fatemids attached schools to their palaces, to prepare elite students for occupying leading positions in the State. The biggest educational achievement for Fatemids is probably building the Al-Azhar mosque in Cairo in 972AD, to teach secular sciences in addition to the religious principles of the *Shi'a* sect they embraced. Al-Azhar passed through consecutive developments and

[7] The word *Copt* is currently used to denote the native Christian Church of Egypt embracing St. Mark's, it was derived from the Greek name of the country *Aegyptos*, modified later by Arabs to be *Gyptos*, then *Coptos* and finally Copts (Wassef, 1983).

extensions in different reigns, as seen from the number and forms of the minarets in figure (2-4) (Shalaby, 1966). Al-Azhar has become the world's largest Islamic University having two major campuses in Cairo to accommodate its different colleges. The first is in the city centre near the old mosque, and the second more recently built campus is located in 'Madinat Nasr' district.

Figure (2-4) General view of Al-Azhar Mosque (MOW, 1949)

In the year 1005AD, the Fatemid Caliph 'El-Hakem' built *Dar El-Ilm* [House of knowledge] in Cairo, which had a library and an observatory to teach philosophy, natural sciences, and mathematics beside religious studies (Nasr, 1987). Three years after its foundation it discontinued its scientific mission, as a result of the common Fatemid trend of making academic institutions subservient to political authorities, and shifting it's interests towards propagating for the views of the ruling regime. *Dar El-Ilm* was abolished in the Ayyubid era later (Nashabi, 1980).

The Ayyubids took over from 1171 until 1250AD. As was the case with the Fatemids, they were biased by political agendas rather than scientific and religious objectives. Their anti-Fatemid attitudes made them ignore developing Al-Azhar to build about forty-five other schools, teaching and propagating their ideologies (Zaki, 1966).

2.3.3 Medieval Eras

Medieval eras include the Mamluk and Ottoman rule in Egypt, until the French Expedition 1798.

From 1250 until 1517AD the Mamluks ruled Egypt. The Arabic word *Mamluk* means "owned". The Mamluks were originally slave soldiers brought to Egypt from Turkey, who comprised ethnic mixture of Turks, Kurds, South Slavs, Albanians, Mongols, and other central Asian tribes (Caselli, 1992).

Under the Mamluk rule, Egypt witnessed notable development in architecture, economy, infrastructure and science. The first postal system was established to improve

communication and trade, and new irrigation canals, bridges, and dams were implemented (ibid.).

Educationally, they split schooling into two streams, one for the ruling elite, which was mainly military to teach them how to keep authority in their hands, while the other was for the remaining population and was mostly religious (Fiki, 1997).

Mamluks expressed high interest in developing Al-Azhar[8] particularly. In addition to building many other separate schools, the first of them was established by King El-Mansour Qualawoon in the year 1285, where Prince Shams El-Din Sonkor El-Sa'di built the famous *El-Sa'deyya* School 1315. The most prominent of this era is *Madrassah* of El-Sultan Hassan, which is considered to be a unique sophisticated masterpiece, even if compared to later buildings. Construction work started 1355, and finished in 1362 [see figure (2-5)]. Afterwards, Circasian Mamluks built *Madrassah and Khanquah* El-Sultan Brquoq in 1386, and *Madrassah, Kuttab and* mosque of Sultan El-Ghouri 1505 (Sameh, 1964).

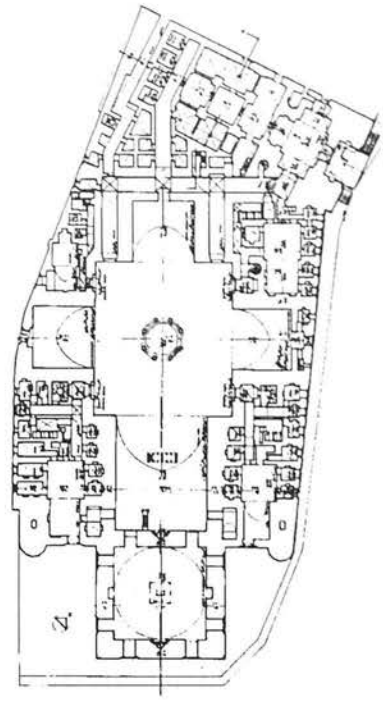


Figure (2-5) Plan of the Mosque & Madrassa of Sultan Hassan (OICC, 1992)

Mamluks were known as skilled fighters who won many battles, driving back the Mongols in Palestine 1260 to prevent their invasion into Egypt, in addition to other battles against the Crusaders, Armenians, and Seljuk Turks of Asia Minor (Wassef, 1983).

Eventually, the Mamluk rule weakened and failed to resist the Ottomans, who defeated them under the leadership of Selim-I in a battle near Aleppo in 1516. Egypt was embraced by the Ottoman Empire from 1517 to 1798AD, having previously subdued Persia and Syria before it (Caselli, 1992). After passing into Turkish hands, Cairo lost its independence and power becoming a provincial capital subordinate to Constantinople (Abu-Lughod, 1971).

[8] Prince Ala' El-Din El-Tabrissi added *El-Tabrissia* School *in* 1309. While and Prince Ala' El-Din Aqbugha built *El-Aqbughawiyya* School in 1340.

The Ottoman period was one of the worst periods for education in general and for Arabic literature particularly. The Ottomans intentionally limited the Arabic education to bond Egypt culturally to Istanbul. They built a very small number of schools, and replaced them with another common typology that flourished there, *El-Sabil El-Kuttab*. This was a building joining both *Sabil* for pedestrians to drink in the street level, and the *Kuttab* in the first floor for educational purposes[9] (Sameh, 1964).

Two generations later, the Mamluks regained power from the Ottomans and had their say in accepting or rejecting Turkish figurehead governors [Pashas], who then completely depended on the power of higher rank Mamluks, known as Beys (Abu-Lughod, 1971).

In 1798 Napoleon Bonaparte invaded Egypt, making use of military weakness and the existing split between the ruling regime, military aristocracy and the rest of the population. Except for the Pyramids battle, the French faced no serious resistance, and controlled Egypt between 1798 and 1801AD (Caselli, 1992).
About 165 scientists and experts in different fields of history, geography, economy, chemistry, physics ...etc. accompanied Bonaparte's expedition to Egypt, bringing along their modern equipment and machinery to study Egyptian history and resources. This was the basis for establishing an independent discipline named later 'Egyptology' (ibid.).
Amongst the most distinguished development introduced by the French expedition was the installation of Egypt's first press machine. This had a major cultural influence in Egypt, drawing the first map of Egypt, with the Nile branches and canals, allowing the initiation of several irrigation and industrial projects in Egypt (Fiki, 1997). They have also established a number of chemistry and physics laboratories, published two political and economic journals, and a twenty-volume survey of Egypt, titled *Description de l' Egypte* (Caselli, 1992).

2.3.4 Modern Egypt

Many historians refer to Mohamed Ali as 'The Builder of Modern Egypt'. Thus, the following description sheds light on a stage of Egypt's history that starts with Mohamed

[9] The most famous *Sabil & Kuttab* was that of Abd El- Rahman Katkhutha (1744), who also contributed to Al-Azhar adding *Zawiat El-Emyan* for blind, *Bab El- Sa'aida, and Kuttab El-Aytam* for orphans.

Ali's rule, lasting until the outbreak of the 1952 Revolution, when the Republican dynasty starts.

In 1805 the Ottoman Sultan appointed the Albanian-origin officer Mohamed Ali as a ruler in Egypt, to put an end to the long Ottoman - Mamluk conflict. During his rule 1805-1848, using his military and political abilities as well as his knowledge and openness to European schemes, Ali applied considerable political, administrative, industrial, and agricultural reforms turning Egypt into a self-governing province (Caselli, 1992).

Mohamed Ali had ambitious plans to create a modern army with a strong fleet to protect the Eastern Mediterranean. Thus, Mohamed Ali established modern military academies, and sent students on educational missions abroad, as well as inviting European teachers to Egypt (Hyde, 1978).

For this purpose, he created two distinct educational streams. One was religious, being an extension to the existing *kuttabs* and mosques, while the other, influenced by modern western approaches, was applied in entirely separate military schools (Fiki, 1997).

The educational provision started from the top down, and lacked a long-term plan. It started with the military colleges named *El-Madares El-Olia*[10], which taught medicine, pharmacology, veterinary medicine, management, engineering, and agriculture, besides the military sciences. When it was found that students needed better preparation prior to such stages, preparatory schools *Taghizeyyah* were set, and so arose the need for primary schools, which were named *Makateb Ibteda'eyyah*[11] (ibid.).

These schools were funded and supervised by the Ministry of War first, until the first educational authority *Diwan El-Madares* was established in 1836 to look after educational affairs and plans (MOE & MOHE, 1990).

The end of Mohamed Ali's rule started after his success in sending the *Wahhabids* out of Mecca and Madina in 1812 (Brooklmann, 1968). This success encouraged him to launch further expansionist campaigns to Sudan then Syria, and to threaten Constantinople twice in 1832 and 1839 (Wassef, 1982).

[10] The first one was opened in Cairo 1825, and the second was in Alexandria 1844.

[11] Also called *Makateb El-Mobtadayan* [Turkish origin term], and reached sixty-seven between the years 1833 and 1836 (Abd El-Karim, 1938).

As a result his relations with Britain deteriorated when Britain became concerned about his expansionistic plans. This instigated the idea of an alliance between Britain, France, Russia, Austria and Prussia, launched in 1839 and known as the 'London Convention'. They obligated Mohamed Ali to move out of all the lands he occupied except Sudan, due to French mediation in 1840 (Caselli, 1992). The Convention limited the Egyptian army to a maximum of eighteen thousand soldiers. This frustrated Mohamed Ali's super-army ambitions and caused serious neglect and deterioration of the education system (Fiki, 1997).

In 1847 Mohamed Ali abdicated in favour of his son Ibrahim, who died a year later, giving succession to his strong nephew Abbas Helmi from 1848 to 1854AD (Caselli, 1992). Abbas Helmi Pasha was known to be a dour ruler, under whom considerable deterioration occurred to the educational system in Egypt, with many schools being shut down during his rule (MOE & MOHE, 1990).

No better than Abbas Helmi, was Sa'id Pasha his successor 1854-1863AD. In his time education suffered and scholarship shrinkage continued. He abolished the only educational administration authority *Diwan El-Madares*, believing it was an unnecessary expenditure. It was fortunately reopened in 1863 during the rule of his successor, Ismail Pasha, under the same name until 1878, where it was named *Nezarat El-Ma'aref and* afterwards the Ministry of Education (Fiki, 1997).

Khedive Ismail[12] [Mohamed Ali's grandson] took over in 1863-1879. Caselli (1992) outlines the projects undertaken during his rule as indicators of active development. On top of these comes the digging of the Suez Canal as well as 112 other canals, constructing 400 bridges across the Nile and its major branches and canals. The most famous of these was *Kasr El-Nil* in Cairo, improving the railway, extending telegraph lines, and developing the national post service significantly. With regard to cultural development, his rule witnessed the opening of the Opera House, the National Library, the Geographic Society, and the Observatory. The most remarkable economic project he achieved was establishing the Bank of Egypt as an Anglo-Egyptian Bank, as well as operating other European bank branches in Egypt, to keep Egypt linked to international monetary market.

[12] He was the first to be granted the title *Khedive* - which means viceroy in Turkish.

However, due to his westernised approaches, Ismail handed the management of these projects to European directors, keen to achieve their own interests, at the expense of the Country's good[13] (Lahita, 1945).

Additionally, his financial policy was believed to have brought the Country near to bankruptcy. The huge loans he claimed from Europe for reasons that were seen as unnecessary, like the Suez Canal opening ceremonies for example. Such loans loaded the Egyptian budget with huge debts, to the extent that he sold 44% of Suez Canal Company shares in return for a loan from the British Government (Caselli, 1992).

The most significant educational development of Ismail's rule was the so-called Ali Mubarak's project. Ali Mubarak had been appointed as a minister for education in 1868 and his project encompassed three main principles; the first was confirming the provision of equal access to good education for all strata of society. The second was accommodating a sufficient number of schools to respond to this need. The third was improving teachers' qualifications[14] (MOE & MOHE, 1990). Ali Mubarak's project also addressed the financial dimension, calling on all Egyptians to donate funding for education, emphasising that education was a national necessity and a responsibility of both the government and the people. Another thing credited to Ali Mubarak is the opening of *El-Syoufeyyah* School in 1872, the first school for girls in Egypt (Fiki, 1997).

In the late years of Ismail's rule, the Egyptian economy continued its dramatic decline resulting from his policies on expenditure, until 1876 when a formal declaration of Egypt's bankruptcy was announced. This motivated the British and French to take joint control of Egypt's financial affairs. To save their shareholdings and investments, they appointed both a British and a French Controller General. Britain and France went far beyond monitoring their countries' investments to interfere in every single detail of Egypt's policies, even in Ismail's personal finances. At last, under foreign pressure, Ismail signed an agreement outlawing slave trade, abolishing the slave army he was preparing to expand into other African territories. This turned the army against him and forced him to abdicate in favour of his son Tawfiq in 1879 (Caselli, 1992).

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[13] He supports that by these examples: a) Suez Canal Company was managed by Ferdinand de Lesseps who was French. b) Khedive signed a contract that entitled this company to the entire Canal revenues and investments for ninety-nine years. c) The Bank of Egypt had its board of directors in England. d) Alexandria Water Company had its board of directors in France.

[14] A specialised school was set for this purpose, which was named *Dar El-Uloum*. The study duration there was four years in 1959 then amended to be five since 1961/62 (MOE & MOHE, 1990).

Under Tawfik's rule 1879-1892, Turkish superiors blocked Egyptian officers' promotions, and salaries were often delayed. This provoked them, under Ahmed Orabi's leadership, to undertake the 1881 revolution, which opened the way for British military intervention to protect Khedive and the British citizens in Egypt (Wassef, 1982). Britain won the battle in Alexandria then defeated Orabi troops in El-Tell El-Kebier battle in the Delta Zone. The British troops took control of Cairo in 1882, formally declaring Egypt under British rule (Caselli, 1992).

The general strategy of education during the British colonisation of Egypt was to set a western model for the rich elite, to educate loyal public workers and governmental employees who would support their ideas and interests, in favour of local national education (MOE & MOHE, 1990).

Secondary study[15] at that time was divided into two stages. The first two years qualify to *Kafa'a* certificate, afterwards the student specialises either in science or literature for two other years to obtain the *Bakaloria* degree i.e. school ending certificate. The first general examination of secondary schools took place in Egypt 1887, while that of primary was in 1891. British authorities imposed tuition fees on all educational stages although they were free before, until the First World War when they reduced the fees to gain further Egyptian support in the war (Fiki, 1997).

Teaching in Arabic, to maintain local identity and culture is credited to Mustafa Kamel, Mohamed Farid, and Ahmed Lotfy El-Sayyed, who exerted joint efforts to gain the colonisation authorities permission. Farid also opened the People Night Schools in 1908 to provide free education to poor people and the labour force (Raf'ie, 1948).

In 1914 the British forces appointed Sultan Hussain to rule Egypt. Sultan Hussain died in 1917 and King Fou'ad [Khedive Ismail's son] took over until his death in 1936, leaving the throne to his son Farouk (Fiki, 1997). The most remarkable educational achievement in Fou'ad's dynasty was the 1908 opening of the first university in Egypt, Fou'ad-I University - currently known as Cairo University (Bedair, 1950).

[15] It used to be four years, but increased to five in 1892, then made three later, and finally four in 1905 under the British.

Negotiations led by Sa'ad Zaghloul to limit British authority in Egypt ended in declaring Egypt an independent country in 1922. Accordingly, the British representative in Egypt was reduced to an ambassador, and the military presence was limited to the Canal Zone to protect British communications and trade routs (Caselli, 1992).

In 1923 a new constitution was issued, under which education became compulsory for the whole population aged six to twelve years. Primary schooling was either free *Elzami* leading to further education in Al-Azhar, or fee-paying *Ibteda'i* for the richer strata entitled to higher education and leading occupations. This split was in sharp contradiction with the principles of educational democracy, but this was rectified in 1944 when primary schooling was unified to a single free type. This also led to the opening of further three-year institutes to graduate primary school teachers who had already acquired *Thaqafa* as a prerequisite (Fiki, 1997).

After King Fou'ad's death in 1936, his son Farouk took over. Under Farouk's rule, the second Egyptian university, Farouk-I University, was opened in Alexandria 1942, after which Ibrahim Pasha University was built in Cairo 1950 [currently Ain Shams University] (MOE & MOHE, 1990). To decentralise education management, six 'educational zones' were created, each of which had a bureaucratic hierarchy headed by an Educational Director. However, the directors' power was limited, giving the Ministry complete control of manpower and finance, as well as details of curricula, textbooks, and examinations (Hyde, 1978).

In 1948 Egyptian forces were sent to fight with Arab troops against invading armies in Palestine, where Egypt had serious economic and military casualties. This defeat was mostly blamed on defective weapons. This seriously reduced the army's loyalty to Farouk, and paved the way to a revolution led by an underground army-organisation called 'Free Officers'. This ended in Farouk being dethroned and exiled in 1952 (Caselli, 1992).

2.3.5 Post Revolution Egypt

The revolution of 1952 established an end to the monarchy and Egypt was proclaimed a Republic in 1953, when the Free Officers transformed themselves into the Revolutionary Command Council, with General Mohamed Nagib as President, and Lieutenant Colonel Gamal Abd El-Nasser as Vice-President (Wassef, 1982).

The revolution was primarily concerned with removing the social stratification that had been imposed in Egypt. Thus, the agrarian reform policy was launched in 1952 to limit personal land ownership to 200 feddans[16], redistributing it to the rest of population such that each *fallah* (peasant) owned two to five feddans. In terms of education, each governorate took control of its own schools, giving education directors further financial and administrative authorities, while maintaining the Ministry's role to monitoring and setting general plans (Fiki, 1997). Although this was the concept, centralised control remained dominant in most issues and this remains the case nowadays.

Nagib did not stay in charge for long, as his ideologies did not comply with those of the other members of the Revolutionary Command Council. This resulted in a dispute and he was replaced in 1954 by Gamal Abd El-Nasser (Caselli, 1992).

The main theme of Nasser's reign was to confirm citizens' democratic rights, and to take away all economic and strategic resources from the colonists and feudals and, under a socialist model, return them to state control. The main principles emphasised by the Constitution were: ending all colonial influences, terminating feudalism and monopoly, setting sound social justice, nationalising many enterprises, developing a strong army, and establishing a sound democratic life. In line with this framework, the agrarian reform policy was modified again in 1961 to set maximum land-ownership at 100 feddans (Sa'id, 1962).

The educational ladder was restructured into six primary years ending in the Primary School-ending Certificate (*Ibtedai'yah),* followed by three years preparatory schooling named *E'dadi.* After *E'dadi* three years secondary schooling, *Thanawi,* take place. This ended with the *Thanaweyyah Aammah* exam [General Secondary Certificate] qualifying students to attend higher institutes and universities (Fiki, 1997).

As part of Nasser's pan-Arabian policy, Egypt intensified educational missions sent to other Arab countries. These missions were intended to convey education among these countries, and were initially financed by the Egyptian government, until these countries developed stronger economies and were in a position to pay back the Egyptian government (MOE & USAID, 1990).

In 1952 the School Premises State Foundation was created to independently establish schools, for the Ministry of Education, and collect the costs back over a twenty-year

[16] 1 feddan is equivalent to about 4200m^2

period. In its first year, this foundation built three hundred and seventy two schools (Hussaini, 1957). The demand increased considerably not only in response to the new adopted policy, but also to handle the huge internal immigration from rural to urban areas and cities such as Cairo, and the huge population growth that was described there as 'population explosion'. This expansion led to a quantitative increase, and the quality of schools suffered, especially in terms of providing playgrounds, green areas, open spaces, and laboratories to maximise the number of classrooms on site. Even at this pace of building this did not provide a sufficient number of classrooms because of the rapid increase in student numbers. In addition to the construction of new schools, there was a large-scale conversion of other buildings and nationalised palaces to be used as schools. Many of these buildings had special historic and aesthetic value and this resulted in a great cultural loss, while also diminishing the standard of the educational environment (MOE & USAID, 1990).

In 1956, the World Bank, the USA and Britain withdrew their promises to fund Aswan's High Dam. In response Nasser seized the assets of Suez Canal Company and nationalised it. This stirred up Britain and France, who allied with Israel and decided to reclaim the Canal by military force, in the so-called Suez War. Shortly after the strike, a UN emergency resolution was issued to halt the conflict, obliging troops to depart and leave the Canal in Egyptian hands (Caselli, 1992).

At the height of his popularity after the Suez war, Nasser was called upon to unify the Arab world. He created the United Arab Republic with Syria in 1958. Undertaking this pan-Arabian mission, Nasser suffered his bitterest defeats, starting with the dissolution of the union with Syria 1961, then the swallowing up of Yemen, and the tragic military defeat by Israel in the six-day war of 1967, where Egypt lost the Sinai Peninsula (Wassef, 1982).

After Nasser's death in 1970, his military colleague Sadat succeeded him. In the beginning of his rule two major events took place, the first was the "Rectification Revolution" of 1971 to liberalise the regime from its troublesome opponents in the influential ministries. The second was expelling thousands of Soviet military advisors in 1972, responding to repetitive Soviet delays in providing Egypt with military equipment they had previously agreed to deliver (Wassef, 1982).

Preparing for the victorious 6th October war in 1973, Sadat undertook a tricky strategy[17] to surprise the Israeli military. After thorough studies of the solar and lunar movements, and the tides in Suez Canal, Sadat and his military leaders agreed on the 6th of October as their day of action[18] (Baha' El-Din, 1974). Meanwhile, secret training in south Egypt to brake through the *Barlaif line*[19] using water pumps was underway (Qabadaya, 1998). On the 6th of October the Egyptian air force began the strike, followed by troop crossings of the Suez Canal, breaking through the sand barrier, and successfully restoring considerable parts of Sinai to Egyptian control (Gamassi, 1998). The military success of the first days was further supported by Arab solidarity expressed in a full embargo on Arab oil exports (Wassef, 1982).

The most controversial change following this action was the 'open door policy'[20] Sadat adopted, to attract foreign investments and technologies. This policy supplied modern technology to advance rapid industrialisation, promoting export trade, and resulting in notable economic progress (Hyde, 1978).

This policy resulted in severe social setbacks, with materialistic values extensively dominating Egyptian life activities, and creating a fertile environment for bribery and corruption. These changes effected education in four main ways. The first was an increase in investment in private luxurious schools with high tuition fees, which indirectly discredited state education. The second was the response of teachers, harshly fighting to improve their low-income, to undertake private lessons. Thirdly, thousands of teachers seeking opportunities were recruited into Arab oil countries [out of the State missions' framework set during Nasser's time] for high salaries, creating unplanned teachers' shortage. And lastly, corruption extended to school building and maintenance projects resulting in a reduction of school repairs budgets, and the appearance of structural defects and cracks in many schools shortly after their completion (MOE & USAID, 1990).

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[17] He announced several false timings for that war, to give the impression that he was doing it only to calm down the angry crowds. He announced discounted *Omra* - pilgrimage trips for large numbers of the army officers, which again was untrue but for the sake of strategic deception. He also announced a formal visit from the Defence Secretary of Romania on 8th October, to confirm the Israeli disbelief of war probability (Baha' El-Din, 1974).

[18] That day was *Yom Kippur* [an Israeli feast] where most activities in Israel halt, including radio and television broadcasting, which were known to be of the Israeli quickest ways to gather reserve troops.

[19] A defensive sand barrier on the East Bank of Suez Canal, claimed impenetrable unless by atomic bombing.

[20] Literally *Infitah*. i.e. relaxing government controls on the economy to encourage the private sector and stimulate foreign funds inflow.

The 1973 victory opened the way to balanced peace negotiations between Egypt and Israel, beginning with the mediation of the American envoy Henry Kissinger, and ending with the signing of the Camp David peace agreement in 1979 under the auspices of the former American President Jimmy Carter (Caselli, 1992).

This was followed by the Washington Peace Treaty of March 1979. This created fierce opposition and hostilities against Sadat among neighbouring Arab nations, who all cut off diplomatic relations with Cairo, with the exception of Sudan and Oman. At home, this peace treaty generated no less domestic opposition, especially among fundamentalist Muslim groups. After Sadat arrested huge numbers of his opponents, in response to this opposition, he was assassinated during a military parade in Cairo in 1981 (Wassef, 1982).

President Mubarak took over after the late President Sadat's assassination. In his early ruling years his policy was to move along two parallel lines. The first was local, in which he was to create internal stability in the country, in terms of economic reform, an established infrastructure, and local security from extremist and fundamentalist groups. The second line was linked to international policy, where he worked on revitalising Egypt's communications with Arab neighbours, rescheduling Egypt's international debts, and retrieving the remaining parts of Sinai Peninsula from Israel in accord with the peace treaty. In response to obstacles created by the Israeli side, Egypt took the case to the International Justice Court and, under the umbrella of the international law Egypt regained control over all of Sinai (Ismail, 1998).

2.3.6 Education and Development in Egypt's History

It appears from the previous section that most of the consecutive ruling regimes of Egypt failed to adopt an educational policy based on any long-term development plan, resulting in many conflicting and transient paradigms being seen in different eras.

For example, the Mamluks split schooling into two streams, one for the ruling elite, which was mainly military teaching them how to keep authority in their hands, while the other was for the remaining population and was mostly religious in content.

On another hand, the Ottomans intentionally limited the Arabic education to bond Egypt culturally to Istanbul, which is obviously a different agenda from that adopted by their predecessors.

Mohamed Ali was motivated by the same notion as the Mamluks, which stemmed from his dream of having a modern army and a strong naval fleet. Similarly he created a distinction between religious education and modern military education. The major development was that the latter involved many other disciplines to support military needs, e.g. medicine, engineering, chemistry ...etc. When he had to limit his army, he turned his interest off education.

In contrast with Mohamed Ali, both Abbas Helmi and Sa'id Pasha had no such interest in education. As a result they shut down many existing schools and educational bodies.

When Khedive Ismail took over, he had ambitious developmental plans. This involved the extension of the Minister-of-education's authorities, to develop and implement the so-called Ali Mubarak's educational project.

Later on, when Egypt came under the British occupation, the general British educational strategy was to establish a western model for the rich elite, the aim of which was to graduate loyal public workers and governmental employees to support their ideas and interests.

The 1952 Revolution came with a socialist agenda, shaping all political, economic and educational practices. State policy at that time was motivated by nationalist agendas towards ending all colonial and feudal influences, establish social justice, develop a strong army, and create a sound basis for democratic life. Education, obviously, was geared to promoting these values, and graduating a proletariat workforce who would work along these lines.

In contrast to this, came Sadat's open market policy, promoting materialistic growth at the expense of social values.

The above changes reveal that a clear plan was lacking to guide education. This is reflected by the radical variation in educational direction during different eras. This explicitly calls for the creation of an educational strategy stemming form a long-term policy aimed at the promotion of a desirable level and direction of development in the Country.

2.4 Educational Background

The following is a description of the current state of education in Egypt, introducing the educational ladder, administration system, recent changes taking place within education, current statistics, and finally a discussion of school buildings provision.

2.4.1 Educational Ladder

All information in this section '2.4.1' is with reference to MOE & MOHE (1991). Schooling in Egypt is run under two parallel streams, the first is 'Azhari', and the second is 'General'. General education is the subject of this research. Azhari education is run independent from the Ministry of Education under Al-Azhar supervision with the same grades and stages, although it has no technical branch, as is the case with the general form. The differences between both systems are first, the particular emphasis on religious sciences in all-educational stages of Al-Azhar system, and second, gender separation in Al-Azhar schools.

'General' education in Egypt is comprised of four levels. Two 'kindergarten' years, six years of 'primary' schooling[21], which together with the three following 'preparatory' schooling years form the 'basic education' stage. Finally the three years of 'secondary' stage qualify the student to attend universities and higher institutes of education.

Secondary schooling can be either a continuation of the general stream, or technical in nature [industrial, agricultural, commercial, and tourism]. Another option for students is registration in one of the vocational training centres immediately after primary school. Secondary technical education takes three years to graduate as a technician, or five to graduate as a workshop teacher or first class technician. Year five graduates have the opportunity to apply to colleges and higher institutes in line with their secondary study disciplines, if appropriate grades are obtained.

[21] See '2.4.3 Recent Changes' for further details.

The following figure has been developed (2-6) to illustrate this educational ladder.

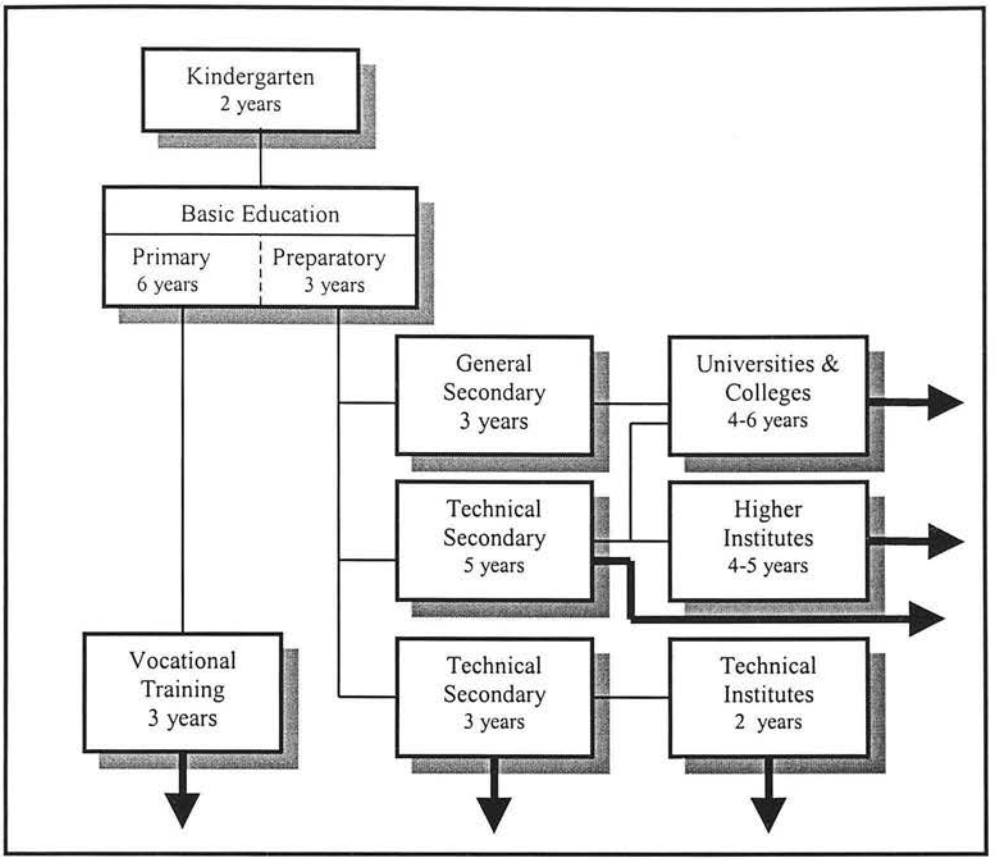


Figure (2-6) The educational ladder in Egypt (Author).

As will be seen in Chapter Five of this thesis, the main concern of the research will be with primary schools. It is important to introduce the objectives of this stage as established by the Ministry of Education in Egypt. At this stage, schools should develop pupils' talents and fulfil their desires, as well as providing them with knowledge, values, ethics, and practical vocational talents that comply with a range of different environments [i.e. rural, desert, and urban environments]. Additionally, this stage should prepare pupils either for higher educational stages or for suitable vocational training for professional practice.

All these objectives are to be achieved while maintaining an emphasis on religious, national, ethical, and athletic values. This enforces the relationship between education and productive work and at the same time responds to different environmental needs in terms of vocational and developmental requirements. Integration between theory and practice in all curricula and plans, and making socio-economic context the main resource of knowledge, research, and activities is of equal importance.

2.4.2 Administration System

Centrally, the Minister of education presides over a number of councils, sectors and central and general directorates that are responsible for the planning, execution, and following-up of all the Ministry's programs. Five deputies assist him in supervising all these departments and directorates in the Ministry. Several councils and advisory bodies are set up to plan for educational development. These advisory bodies deal with university and pre-university education, curricula, examination and assessment, research and development, adults learning and illiteracy, and the General Authority of Educational Buildings (MOE & MOHE, 1990).

It is known from '2.2.5' above that capital cities in every governorate in Egypt are called 'centres'. The administration body of each 'centre' and its subordinate villages is known as a 'local unit'. The Ministry's role is limited to planning, monitoring, evaluation, development, provision of educational materials, and to the determination of teachers' qualifications. Where local units are responsible for implementing and following plans set by the Ministry in local schools, setting examinations, and teacher recruitment (NCERD, 1999).

A local unit operates through an 'educational zone' that directly reports to the Ministry of Education in Cairo. An educational zone is the top of a hierarchically planned system that encompasses a number of 'educational directorates' supervising a number of 'educational sectors'. A sector takes control of a number of 'inspection offices', each of which is assigned to look after certain schools within its geographic zone (Assal, 1998). The above is illustrated in figure (2-7).

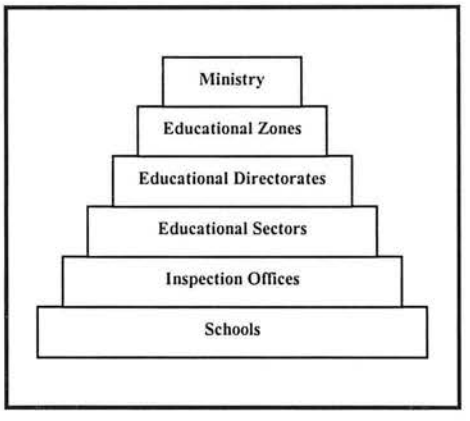


Figure (2-7) The hierarchy of non-central educational administration in Egypt (Author).

Most governorates comprise one educational zone, but this is conditioned by the resident student population. For example Cairo has seven educational zones and Alexandria has four, being the most populous governorates in Egypt (Fiki, 1997). It is worth mentioning in this context that the number of primary schools in Cairo was 1181 in 1999, accommodating 754048 pupils (IDSC/IS, 2000).

2.4.3 Recent Changes

In 1981 a new law was issued to extend compulsory education to the age of fifteen to encompass the basic educational stage in its entirety (Fiki, 1997). This law also initiated the establishment of new 'experimental' schools and classes for testing new educational themes and curricula before extending them to the rest of schools (MOE & MOHE, 1990).

Guha (1997) suggests that educational under-funding was the reason for undertaking a joint study with Harvard University and UNESCO. This study concluded that under the conditions of 38 weeks academic year there was no direct relation between the number of years studied and the quality of education attained. Additionally, reference has been made to other Arab countries like Kuwait[22], that cover basic education in only eight years. As a result in 1988 the primary cycle in Egypt was cut down to five years (MOE & MOHE, 1990).

About a decade later, the Minister of education issued a counter decision to add a sixth year to primary schooling to adjust to global educational trends, which was based on the fact that Egypt's economy had improved (Fiki, 1997). His proposal was submitted to the Parliament and approved on 15/5/1999, under Law Number 123 (NCERD, 1999). This program started with students entering primary one in the 1999/2000 academic year (Shazly, 1999).

Canceling and then reinstating the sixth year in primary schooling reflects a clear lack of long term planning. Cancellation resulted in the number of university students doubling in one year, while there being a very small number in the year after, basically those that were the former year's failing students.

In terms of teachers' development schemes, the holding of a university degree was set as the minimum qualification for primary school teachers. All secondary level institutes that had graduated teachers before were closed. In addition to academic training in Egyptian universities, in 1993/94 a number of agreements were established with UNESCO, British, French, and American universities to train 400 teachers every year. This number was increased to 1355 candidates in 1998/99 (MOE, 1999).

[22] The contradiction here is that the secondary schooling duration in Kuwait is four years unlike Egypt, which means an overall schooling of twelve years, not eleven.

Another important initiative was raising teachers' salaries through promotions, grants, incentives, and remuneration (ibid.). A Ministry report in 1998 confirms that the average salary of a teacher was E£200 [about US$60], and could be raised to E£500 by taking formal after-school lessons sponsored by the Ministry (Targett, 1998). These figures, if precise, are still very low for average standard of life requirements in Egypt.

Such improvements resulted from a crisis of 'private lessons', in which parents had to pay for their children to have private after-school lessons to supplement inadequate education received at school. Teachers used this as a tool to boost their modest salaries to the extent that some of them even threatened children and parents with low marks if they did not join their lessons. Minister Baha' El-Din describes this phenomenon as the "AIDS of education" believing that it would destroy the educational system from within (Targett, 1998). As one of their top priorities to help poor families, many charities, mosques and churches provide private lessons at affordable prices to relieve the financial burden of such lessons.

In the context of modernising education some committees are working towards upgrading the curricula, to rule out redundancy and to bring to the fore some more contemporary notions like computer use, environmental awareness, terrorism, extremism, addiction, conservation, political awareness, and international mutual understanding (MOE, 1994).

Computers were first introduced to schools in Egypt in 1988/89, with the number of schools with information technology reaching 11500 by the end of 1998. A budget of E£4.6bn is set to equip schools with computers until the end of 2002 (Targett, 1998).

Another major transition in education took place recently with the General Secondary School [GSS] exam. This exam critically affects the future of graduates, in terms of whether they would have the chance to enrol for university as seen in '2.4.1 Educational Ladder' above. This also has a significant social impact in Egypt.

In 1994 a law was issued to make [GSS] results cumulative for the last two years of secondary schooling. Under the previous situation high levels of stress were experienced in the final year. It included some obligatory and other optional subjects, rather than the rigid system of imposing the same subjects on all students, regardless of their individual preferences. The new system distributes the academic load over two years, and widens the opportunity for students to improve their marks (Fiki, 1997). This law was annexed

by a Prime-ministerial decision in 1997, preventing students from resubmitting to improve their grades. That took place after students abused the law, applying to be re-tested in all subjects, ensuring they would be given the higher mark (MOE, 1999). Introducing the law prior to setting the criteria or limitations governing the number of times a student is allowed to resubmit may have been premature. The decision-makers were surprised by people's behaviour, and their reaction was extreme. Rather than placing limitations or conditions on resubmission the process was blocked completely.

2.4.4 The Current State

The aim of this section is to introduce general figures concerning illiteracy rates, educational expenditure, and pupil and teachers numbers. This will provide a clearer understanding of the current problematic educational situation in Egypt. Starting with illiteracy, figure (2-8) shows that about half the Egyptian population was illiterate in 1996/97. Rates of distribution among urban and rural areas are also shown in the graph.

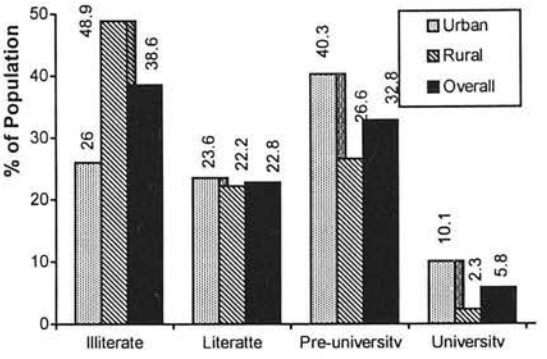


Figure (2-8) Educational status among rural and urban areas in Egypt 1996/97 (MOE, 1997).

The plan initiated to resolve this problem was aimed at reducing illiteracy rates among male and female citizens ageing 15-35 especially in the countryside. The plan managed to cut rural illiteracy rates from 61.8% in 1986 to 45%, and to 34.2% for the overall population (NCERD, 1999). The plan involved the 'single-class schools project' initiated in 1993/94, comprising a classroom and a place for practising sports with a closet (GAEB, 1994). 150,000 unemployed university graduates were recruited to teach 30 illiterates each on an annual basis (Gardner, 1996). Figure (2-9) above shows progress by gender until 1999.

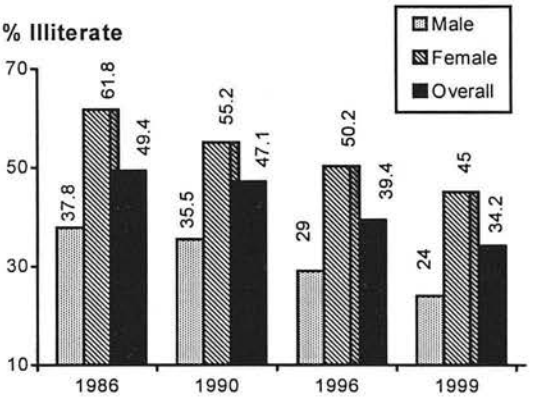


Figure (2-9) Illiteracy eradication progress among different genders in Egypt 1986/1999 (MOE, 1999).

Annual educational expenditure per child in Egypt was US$25 (Gardner, 1996), which is barely two thirds of the average expenditure for Middle-east and North African states, and a mere 4% of spending per child in Israel (Guha, 1997).

Figure (2-10) shows the progress of pre-university educational budget. It reached E£14.67bn in 1998/99, and E£16.18bn in 1999/2000. The approved budget dedicated to education until the end of the 1997-2001 plan was E£6.23bn, and E£45.5bn for the following plans until 2017 (MOE, 1999).

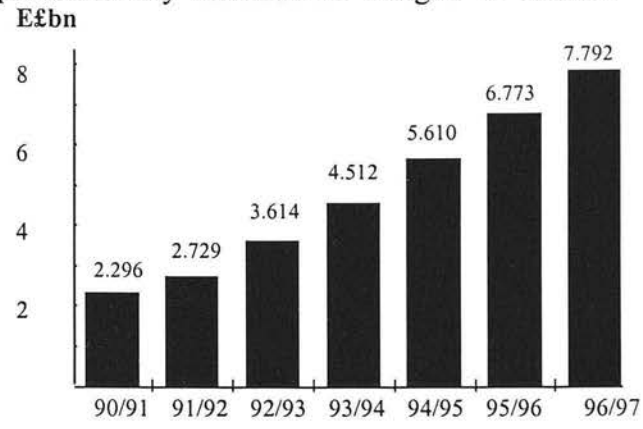


Figure (2-10) Pre-university education budget progress 1990/91-1996/97 (http://home.moe.edu, 1999).

In an assessment report of basic education in Egypt 1990/91 – 1995/96 carried by UNESCO and the UNDP, an increase in basic educational expenditure of 45%, at an annual rate of 7.6% was reported. The same study also reported an increase in general educational expenditure from 12% to 19% annually (UNESCO & UNDP, 1996).

In the 1999 report by the National Centre for Educational Research and Development, titled *"Egypt National Report, Education For All 2000 Assessment"*, submitted to the International Consultative Forum on *"Education For All"* program held in Dakar 2000 under UNESCO auspices, a gross intake rate in primary one was reported as 99%, and 99.6% for the overall primary stage in 1998/99 [excluding Al-Azhar figures], where classrooms density went down from 44 to 42 pupil per classroom.

The following table (2-2) shows growth in student numbers during the years 1991/92 – 1998/99, according to the Ministry of Education statistics.

Schooling Type	Students No.91/92	Students No.98/99	Total Increase	% Increase
Kindergarten	223,051	328,140	105,089	47.11
Primary	6,541,725	7,351,118	809,393	12.37
Preparatory	3,593,365	4,152,624	559,259	15.56
General Secondary	572,026	968,708	396,682	69.34
Technical	1,110,184	1,874,936	764,752	68.88
Total	12,040,351	14,675,526	2,635,175	21.88

Table (2-2) Growth in pre-university students' numbers 1991/92 – 1998/99 (MOE, 1999).

The growth in numbers of teachers through 1992/93 until 1998/99 reached 193,719 teachers at a rate of increase of 34.4%, taking into account the appointment of about 39,000 teachers in 1998/99 (MOE, 1999).

Academic Year	No. of Teachers	No. of Pupils	Pupils / Teacher
1991/92	253801	6402472	25.23
1998/99	314528	7351118	23.37
Increase	60727	949646	- 1.86
% Increase	19.31	12.92	7.37

Table (2-3) Primary-school teacher & student numbers 1991/92 – 1998/99 (NCERD, 1999).

The 'minus' sign in the third cell of the students/teachers ratio column confirms that growth in teachers exceeded that of students. The NCERD report of 1999 outlines teacher/pupils ratio as 1/23. However, appointing 39,000 teachers in one-year raises many immediate considerations, including recruitment, distribution, training, qualifications, salaries, and all associated technical and administrative requirements. In addition future problems are also created including allocation of promotions, and the possibility of many teachers retiring in the same year.

In Al-Ahram paper of 21 February 2001 Minister Baha' El-Din announced the appointment of another fifty thousand teachers as a step to rectify the 250,000 teachers shortage.

2.4.5 School Buildings

The aim of this section is to shed light on the serious demand for additional schools in Egypt, as well as outlining progress achieved in this area.

In 1988, a Presidential decision was made to establish the General Authority of Educational Buildings, an independent body commissioned to integrate all organisations planning and managing the process of schools building, maintenance, and equipment. This body was chaired by the Minister of education, with a general manager to handle its central management (GAEB, 1994).

A report published by GAEB in 1994 outlined the serious demand for further schools until the year 2002. Estimated requirements were 3686 schools to cope with overpopulation, and 5408 schools to eliminate multiple shifts. Shifts reached three in

some schools, at two and a half hours each. Student distribution by shifts can be seen in figure (2-11).

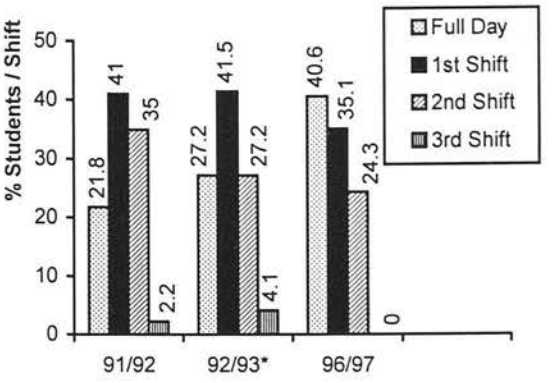


Figure (2-11) Students' distribution by school shifts 1991/92 – 1996/97 (MOE, 1997).

1191 schools will be needed to reduce classroom densities, that was as high as 44 pupils per classroom in 1995/96 as shown in the following table (2-4).

Schooling Type	No. of Schools	No. of Classes	No. of Students	Class Density
Primary	18899	182541	7855474	44
Preparatory	6905	87346	3679325	42
General Secondary	1452	21697	830562	38
Agricultural	142	5060	183097	36
Industrial	657	22878	805806	35
Commercial	869	21214	799491	38
Single Classroom	1646	1841	28525	15
Total	30570	342257	14182280	41

Table (2-4) Classroom densities 1995/96 (MOE, 1997).

Additionally, 5180 schools will be needed to replace old buildings and 4482 to handle the 25% dropout rate. This comes to a total of 19,947 schools, in addition to providing further classes, laboratories, workshops, computer-rooms and utilities needed in existing schools (GAEB, 1994).

As a result of a major earthquake in 1992 a large number of schools were destroyed, and the need for the building of new school increased even further. GAEB formulated a plan to build 7500 schools in five years, at the rate of 1500 per year. The following table (2-5) presents some details of the plan.

Schooling Type	Cairo	Lower Egypt	Upper Egypt	Sinai & Canal
Primary	10906	21776	10018	7471
Preparatory	4183	9357	7310	4033
General Secondary	1452	21697	830562	38
Industrial	1521	3618	1306	1225
Agricultural	374	617	222	1493
Commercial	1866	3275	2261	-
Single Classroom	-	-	1458	411
Total	20154	41727	23651	16056

Table (2-5) 1997/98 – 2001/02 Plan of needed school buildings (MOE, 1997).

All relevant authorities offered their support, for example the *Ministry of Waqfs* offered land plots in the old quarters. While the army engineering forces supervised the implementation in collaboration with local universities and engineering colleges, who provided a high standard of technical supervision, and made their laboratories available for local materials testing to speed up construction (MOE, 1994).

Mrs. President also sponsored a campaign urging all businessmen and capable citizens to make donations for the rebuilding of schools. This campaign was extensively supported by the Egyptian media in two ways. The first was spread awareness of the project. This succeeded in reaching Arab and other foreign individuals and organisations, who subsequently made generous donations. The other was the offer of a complementary advertisement for all those who made donations.

The result of this campaign was that a hundred schools were rebuilt in less than thirty months (ESDC, 1995).

Figure (2-12) shows overall progress in school numbers.

The number of schools built in the late 1990s exceeded the number built during the previous hundred years (Targett, 1998). The Ministry's statistics state the number of schools built in 1882 to 1991 as 6092, while in 1992 to 1997 the number reached 7500 (http://home.moe.edu, 1999).

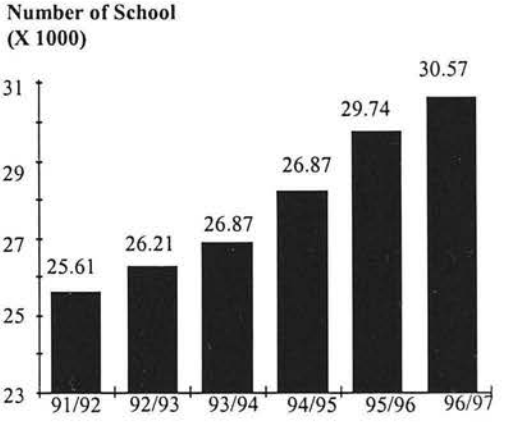


Figure (2-12) Evolution in the number of schools 1991/92 – 1996/97. (http://home.moe.edu, 1999).

In addition to the E£22.4bn budget allocated by the state, a large number of local societies and charity organisations were invited to a conference in Cairo 2002. The aim was to contribute to funding the establishment of 10,087 schools in the next five years, in response to the 1.4 million annual increase in the childhood population (Baha' El-Din, 27/09/02).

As for maintenance, the established plan assigned the maintenance of 3000 school a year, for six years starting 1991 / 92, at a total cost of E£150m annually. The actual figure achieved was 3,500 schools in the first year and 3928 schools in the second. The figure for the third year 1993/94 jumped to 7808 taking into account the schools hit by the earthquake (MOE, 1994).

Summarising the achieved progress, nine thousand schools have been built, twenty thousand maintained, and 18,500 equipped with IT facilities. Classroom density went down from 44 to 42 students per classroom (NCERD, 1999). In another study it was reported that the increase in investment in school buildings and infrastructure was 35%, at 7.3% per year. This allowed an increase in basic education enrolment of 12% (UNESCO & UNDP, 1996).

As for future plans, the Minister of Education announced in Al-Ahram daily of 16/02/01 that 27,000 sites have been chosen for the establishment of schools throughout Egypt, and that drawings and plans are ready to begin construction. In Cairo specifically, the Governor Dr. Shehata reported in the Al-Ahram daily of 12/03/03 that their plan was to build 578 schools from 2002 - 2007, 36 of which were already under construction. It is known, however, that Cairo generally receives a high share of developmental projects, with, for example, 23.57% of Egypt's overall investments being dedicated to Cairo in 1996 (IDSC, 1997).

2.5 Conclusion

In the above discussion a general description of Egypt, its resources and population characteristics were analytically and statistically presented. This discussion was intended to clarify how education evolved and acted effectively within the Egyptian community, and how it affected and was affected by the social, political and economic changes, across historical eras. The current situation was also discussed, including the latest developments and programs adopted by the government.

Egypt is the seventeenth most highly populated country in the world. High levels of urbanisation have increased the population density in Cairo to 31,697 persons/km^2.

Historically Egypt's location attracted many invasions from external empires and their armies, bringing with them a range of different cultural influences. In spite of this, Egyptian culture demonstrates a unique capability to evolve its traditions and assimilates varied external cultural elements.

Egyptians' socio-cultural considerations are products of strongly held religious beliefs by both Muslims and Christians. These have acted as a source of spiritual force that kept the uniqueness of the Egyptian character, with its significant impact on cultural codes,

behavioral values, norms, beliefs and attitudes. Their religious psychology is more a means for social interaction than it is a ritualistic activity.

Since the Fatemid rule in Egypt, education has been used to support particular political agendas. This continued during the Ayyubid, Mamluk, and Ottoman rules. The Ottomans intentionally limited Arabic education to bond Egypt culturally to Istanbul. Such political agendas for education were also seen under the British colonisation, at the time of World War II. The revolution of 1952 had free education as one of its most influential plans geared to win popularity amongst the people.
Having been shaped on a socialist model just after the 1952 revolution, and experiencing the heavy burdens of four consecutive wars, the Egyptian economy has experienced many blows, and this was reflected in the standards of the services provided.

It appears from the above discussion that most of the consecutive ruling regimes failed to adopt an educational policy stemming from a long-term developmental plan, and this resulted in the many conflicting and transient paradigms seen in different eras. **Such fluctuation and radical variation in educational direction, explicitly calls for an educational strategy that has its basis in a long-term policy geared towards the promotion of a desirable level and direction of development in the Country.**

There is a serious need for the provision of further schools to overcome the current problems of overpopulation, multiple shifts, high classroom densities, dropout rates, and replacing old buildings, particularly those destroyed by the 1992 earthquake. Plans have been developed to build these schools and progress is already underway.

Cairo has the highest population in Egypt at 11.5% of the overall population, with a population density of 31,697 persons/km^2. Cairo is composed of seven educational provinces, managing 3188 schools, out of which 1181 are primary, accommodating 754048 students. Being the capital city, Cairo generally receives a high share of developmental projects, with 23.57% of Egypt's overall investments being dedicated to Cairo. It is planned to build 578 schools in Cairo during the period 2002 - 2007, 36 of which are already under construction. From the above analysis, Cairo can be considered to be rich source of information, with a wide diversity of examples to trace, assess, and

discover reasons for schools' failures and successes. This range and diversity should allow the outcomes of any research to be applicable to a wider population. For this reason Cairo was chosen as the main site for the empirical work of the present study.

The following part of the current research develops a theoretical framework. Upon this framework, and with the support of the studied backgrounds, a model for education shall be identified. Based on a sound understanding of the situation as a whole, this model is to be responding to society's real demands, and fitting with its embedded traditions and dreams for the future.

PART TWO ...

BUILDING A THEORETICAL FRAMEWORK

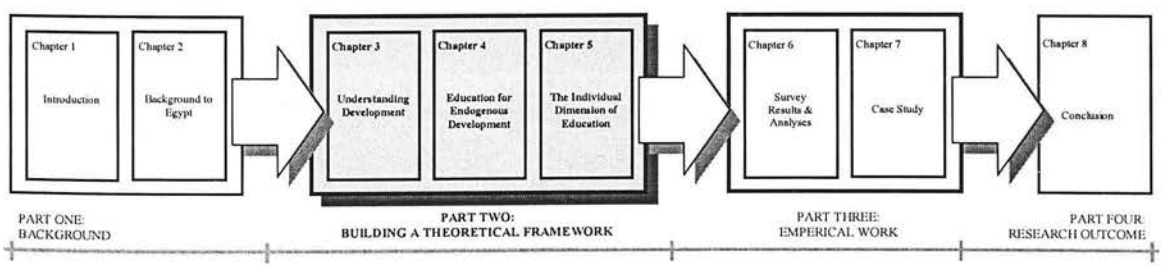
PART TWO

BUILDING A THEORETICAL FRAMEWORK

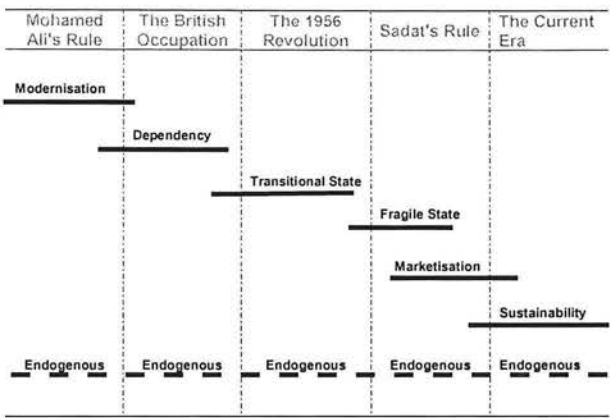
This part is dedicated to building the theoretical framework. It is divided into three chapters. Chapter Three 'Understanding Development' introduces the interpretations, approaches, and attitudes to development. It then tests the model of endogenous development against the history of development in Egypt. This is to establish an approach to development deriving from the Egyptian context, which will act as a springboard for an educational paradigm to be undertaken in Egypt.

Chapter Four 'Education for Endogenous Development' studies an educational model based on the same pillars of endogenous development. This is 'indigenous community-based education'. The origins, approaches, models and applications of this paradigm are studies, with reference to 'indigenous resources and knowledge' and different levels of 'sharing', both being principal pillars of this paradigm, as well as to endogenous development.

Chapter Five deals with 'The Individual Dimensions of Learning'. It is structured on the framework of human needs: basic and cognitive. It studies both hierarchies of needs, and the different approaches to them. It then discusses models of education in support of each, to build up an understanding of the means of individual development, as a prerequisite for collective societal development.



CHAPTER THREE



UNDERSTANDING DEVELOPMENT

Understanding "Development"

3.1 Introduction

It was shown in the previous chapter how the conflicting agendas of different ruling regimes were reflected in educational conditions and how this consequently affected the developmental state of the country. This highlighted the need for an educational strategy stemming form a long-term developmental paradigm, i.e. dealing with education as a subordinate component in the system of development. This necessitates understanding the meaning of development itself before going on to study applicable educational theories.

Development is a primary goal for all societies. Although universal development programs are not geared towards any one particular solution, the results of the first and second decades of UN development show that adopting foreign patterns of development, education, and life-styles are not effective in dealing with the complex problems of the so-called Third World Countries.

This chapter is intended to contribute towards a better understanding of development. This will be tackled through discussing different interpretations, attitudes, and approaches to development. It also tests different developmental paradigms against the endogenous model, with particular reference to programs undertaken in Egypt.

3.2 Interpretations of Development

Many theorists refer to development when they mean 'change', others denote 'gain' or 'profit', however, development in general involves progress and improvement that occurs in a complex process of transformation. Riddle (1981: p. 3-4) quotes:

> *" ... development implies change in favour of general human improvement"*

Anderson (1985) defined development as 'the process of reducing vulnerability to disasters; where disasters are indicators to the failure of development'. Zargar criticised this, where he stated:

> *"Man does not only live to survival, rather in all aspects he is everyday challenging some sort of progress and development ... both in materialistic and non-materialistic sense."* (Zargar, 1989: p. 240)

On another hand, Barakat (1993: p. 79) quotes from Poostchi (1986: p. 1):

> *"Development is the complex pattern of economic, social and political change that takes place in a community or a society as it changes from a traditional status. The transformation to modern status includes social and political consciousness, division of labour, literacy, urbanisation and broad general participation in the overall development activities at national, regional, local and village level"*

However, it should be noted that the development of a person or a society is not defined by what or how much that person or society has, development is more to do with **what it can do with whatever it has**. Given that one person or society cannot be motivated for another, **one person or society cannot develop another; it can only encourage and facilitate the development of another**. Ackoff et al. (1984) suggest that the only type of development is 'self development'. Therefore, governments cannot develop the governed, but they can encourage their development. Thus, their role should be mainly to facilitate solutions for the citizens themselves to undertake.

This may be applied to schools in the sense that they should provide the settings that allow pupils to learn, rather than being pre-occupied with teaching them a certain rigid set of curricula. It is not possible to teach others how to develop themselves, we should rather show them the actual process of development and give them the opportunity to experience it themselves (Ackoff, 1974). One cannot learn how to swim by watching others or listening to them talk about it. One can only learn it by practice, afterwards watching and listening can help and enhance the experience. **Thus, the role of development programs should be to give others an opportunity to learn by practice, encourage them to do so, support them during their failures, recognise**

success when obtained, and serve throughout as a resource that the learner should learn how to use effectively. Islami (1998: p. 327) quotes the Chinese proverb "Give a man a fish and you feed him for a day ... Teach a man how to fish and you feed him for life". This should be the appropriate theme of development.

3.3 Change, Growth & Development

It is of prime importance to outline the differences and similarities between these three interchangeably used terms: change, growth and development; so that the following discussion would be based on sound understanding of each.

In Webster's Dictionary 'to change' is defined as "to make radically different; to give different position, course or direction". Change might be intentional or not, might be for better or worse, might be in any direction. It just represents a transition from the current condition, which might be only in the direction accompanied with no actual achievement or motion; or might imply, form the above explanation, a radical difference which is in no way connected to the prior condition.

Webster's interpretation of 'grow' is "to increase and expand; to increase in size by addition of material either by assimilation into the living organism or by accretion a non-biological process". Growth is then, a change in size or number, which can be of either positive or negative effect, for example organisms can increase in size, as can populations – a fact that does not necessarily mean improvement in performance. In biological systems growth is an operation that takes place without choice; and can even come to a negative consequence either at a certain age or as a result of cancer cell growth, which represents a harmful growth, although involving increase in size. Economic growth in particular can refer to the increase in both the size as gross national product [GNP] and performance measuring the product against the size of the studied population [e.g. per capita income].

However, many people see growth as a natural and favourable process that is a prerequisite for development, yet they become mostly concerned with studying, tracking and evaluating growth. **Growth is to be interpreted as a means to promote development and wellbeing rather as an end on its own**. Thus, it should be evaluated in relation to its objectives. This can explain the pre-occupation with growth [in favour of development] in underdeveloped populations. Development should be seen as a

holistic concept that formulates and contributes to the end-target, which all individuals and societies should actually seek, namely improving the quality of life.

Ackoff et al. (1984) suggest that "development is a process in which individuals or societies increase their ability to satisfy their needs and desires and those of others". They elaborate that this process aims at improving the quality of life rather than the standard of living, unlike growth, knowing that economic growth does not always incorporate improvements in the quality of life. Moreover, Henderson (1978) argues that some developed countries are increasing their standards of living at the expense of quality of life.

This is not to say that wealth is irrelevant to the development of quality of life. The number of people who can actually improve their quality of life, and that of others, depends not only on their abilities and desires but also on the level of resources available to them. Yet, the more developed a country or a person, the more resources it has to recognise and develop. In other words, resources are created from what nature provides, but **what nature provides does not become a resource until people have recognised, transformed and learned how to use it.**

However, **growth should not be seen as evil or negative, but rather it should be seen as a means to an end.** Mumtaz (1983) explains this suggesting that technology, for example, can be exclusively used for the purpose of material gain and profit, and it can be used for the goal of improving man and society. It is the context in which technology is used that matters.
In brief, economic growth, technology and education should be subordinate to social needs and not vice versa, as is the case today. Unless leaders are prepared to discuss ways and means of achieving this type of development, none of the prescriptions against poverty [or backwardness] currently in use are likely to make any difference to the worsening situation (Fadaka, 1982).

3.4 Attitudes Towards Development

With reference to Ackoff (1974) and Islami (1998), the present research will introduce four general attitudes towards development, planning and problem solving, these are inactivists, reactivists, preactivists and interactivists. It is important to notice that these attitudes coexist with different proportions in each individual and organisation, the

relative proportions of this mixture can vary in different times and situations. Nevertheless, one of these attitudes usually dominates an individual or an organisation, and hence becomes characteristic to its general theme.

This discussion will be followed by an introduction to top-down versus bottom-up approaches in relation to development. This should help in understanding the situation in regard to the different models of development examined thereafter.

3.4.1 Inactivists

Inactivists are usually satisfied with the way things are going, and have no serious motivation to take action unless forced to. Their main direction is towards conservation, stability and 'survival'. Thus, their behaviour is usually very centralised with decision making at the top hierarchical level, with strong preference to the most feasible means. Although they do not pretend that things are at their best, they claim they are as good as we have reason to expect.

Inactivists usually choose ends that are appropriate to the most available means, instead of adjusting means to the desired ends, i.e. they want what they can get rather than getting what they want. Moreover, they are known to have a preference for not doing something that has to be done rather than doing something that does not have to be done. In other words, they try to ignore problems [until the point of survival] hoping or expecting that they will be handled naturally, believing that interference may only make things worse.

In terms of development, inactivists do not believe that development and underdevelopment are interdependent phenomena. They usually overlook their failures and only see successes, while seeing the failures of others rather than the successes they achieve. Their principle belief therefore is "those who deserve get, and those who do not deserve do not get", or it may be even rephrased as "those who have deserve, and those who do not have do not deserve". Yet, the less developed should be left as they are [that they are surviving the way they are].

Such a manner was highly characteristic of King Farouk's rule in Egypt 1936-1952, and has been part of the settings that shaped Egypt's recent history. This provides an explanation for a large number of contemporary problems that are rooted in that era. That period was characterised by leaving things to be solved by time, or even being left unsolved, just left to keep growing on their same route, whether it was a positive or negative route. This led to the accumulation of many problems, particularly social ones,

where feudalism increased, rich people became richer and the distressed got even poorer. Such extreme contradiction brought about an essential demand for change, paving the way for the 1952 Revolution.

3.4.2 Reactivists

Reactivists generally dislike complexity, and are sentimental for 'the good old days', believing that things are getting worse with time. If anything went wrong the appropriate remedy they follow is returning things to a previous better situation, always putting the blame on technological changes [being something that exists in the present and has not been there in the past]. Thus, their main objective is 'revival'. Reactivists tend to marginalise or subordinate the unmanageable interests.

They depend highly on experience to deal with problems, this is why they clearly value seniority and age, and allocate responsibilities according to it. Reactivists try to select the solution which produces a satisfying outcome, i.e. they treat every problem as unique and rely on past experience first, then 'trial and error' to find a way out. They principally try to reconstruct a previous state in which the problem they are facing did not exist, by removing or neutralising the cause, so that things get back the way they were.

One can see this tangible in some recent calls to revive the monarchy in Egypt. Proponents of such ideas consider the current problems to result from the Revolution of 1952 and its consequent changes. What they are actually doing is subconsciously trying to revive the days where such problems did not exist. Although many problems are truly rooted in previous times, this should not mean that the solution is to retrieve the old days typically as they were, the causes should be extracted from the old days but applied within a framework that constitutes a desirable present and future. On the other hand, Islami (1998) suggests that most decision-makers in government and private enterprises in Third World Nations are 'problem resolvers', who claim that the experiential approach minimises the risks of making errors that could result in serious setbacks.

3.4.3 Preactivists

Believing that the future will be better than the present and past, they are usually unwilling to settle for things the way they are, or even how they once were. Preacivists are more ambitious than the previous two. Their principle objective is 'growth' and they

seek improvement and optimisation. They seek change within the system rather than changing the system, yet they are reformers not revolutionaries. Therefore, they are mostly preoccupied with the future, prediction and forecast.

Since they try to identify and deal with problems before they occur, they condemn 'not doing something right' just as 'doing something wrong'. Knowing that the future is uncontrollable, they try to accelerate its coming and control its effects on them [without trying to redirect it], mainly depending on logic, science and experimentation. On the other hand, they are known to lay more interest on hardware [things] rather than software [people] - even when they have to deal with people they do it on collective bases to be more predictable. Preactivists try to do as well as possible [to optimise], seeking to reform the problematic system by preceding prediction and preparation.

The preactivist attitude towards development emphasises that developed countries necessarily need to support the less developed ones, by financial aid and technological scientific facilities, i.e. the intellectual elite of the developed countries should handle the development of underdeveloped ones. They claim that the development of less developed countries is primarily a matter of using what developed countries know, and applying their systems directly without serious modification.

On the other hand, preactivists believe that technology cannot produce development unless coupled with increased productivity of individual workers, achieved by universal compulsory education, to eliminate the ignorance that is responsible for underdevelopment.

In a way, Mohamed Ali who ruled Egypt 1805-1848 can be seen as a model for preactivist leaders. One only needs to think of the huge educational enterprises[1] he implemented in collaboration with developed European countries, responding to the demand of a highly qualified army. On the other hand, Fiki (1997) reports some acts resembling 'reactivism' in this era. These include starting with high schools, then discovering the need for a preparatory stage and finally primary education, such a responsive action does not imply a long-term view [typically reactivist manner]. Similarly, his neglect of education and its deterioration following the London treaty of

[1] Sending educational missions to Europe, inviting European education experts to Egypt (Hyde, 1978), and establishing three-stage education system (Fiki, 1997).

1840 [that limited the maximum number of armed forces in Egypt to eighteen thousand], in no way indicates the presence of any long-term vision.

3.4.4 Interactivists

This attitude is mostly observed in indigenous societies who have clear ideas about their future as well as their past. Interactivists do not wish to settle for the current state of affairs, nor with the current way they are going, nor with a return to the past. They want to design a desirable future and invent ways for bringing it about. They tend to create opportunities rather than merely exploiting available ones. They are 'idealisers' who plan to do better in the future than the best that presently appears to be possible, to create long-term continuous development. Their main concern is to design systems to understand, adapt to, and control rapid change.

They prefer 'experimentation' to 'experience'. Technology to them is evaluated depending on how people may use it, but not as good or bad itself. Interactivists try to change a system by removing the problems. Their objective is to move the system closer to its ideal state. They change the way systems interact with the environment and how their component elements interact with each other. Their principle objectives can be categorised under the heading of 'self development'. Unlike the preactivists who are interested in the short and medium-term future, interactivists give balanced attention to long-term as well as short-term visions. Interactivists claim that development requires individual and collective commitment. Similar ideas are discussed in '3.5 Approaches to Development: Top-down vs. Bottom-up', and '3.12 Endogenous Development'.

Interactivist leaders are the ones whom history mostly refers to, mentions and even sometimes glorifies. This is thought to be because they are the ones who clearly had the ability to change their future, having special vision and solid achievement. In spite of much criticism against him, the former Egyptian President Nasser is seen as an interactivist leader who sought to change the system itself rather than speeding things up within the existing system. An example is the 1952 revolution that replaced monarchy with a socialist model, and included amongst its major pioneering achievements the nationalisation of the Suez Canal in 1956. Nasser's successor President Sadat is seen as another example of an interactivist leader, who was clearly focused on changing systems, including the radical changes he initiated from socialism towards capitalism and a free market model. Another eye-catching example of his

approach comes from the peace talks and treaties he held with Israel between 1977-1979. The outcome not only changed the conditions of the Arab – Israeli conflict, but even the setting of the whole Middle-East area.

The following table (3-1) is inspired from Islami (1998) with some additions and modification to summarise the above discussions.

Attitude	Inactivists	Reactivists	Preactivists	Interactivists
Characteristic	Conservation	Re-creation	Exploitation	Creation
Problem solving	Ignore problem	Reconstruct non-problematic state	Solve problem	Change system by removing problem
Orientation	Satisfiers	Remedial	Optimisers	Idealisers
Management	Conservative	Reactionary	Liberal	Radical
Prime Objective	Survival	Revival	Growth	Development
View to future*	Preference to present status	Affinity to past	Short to medium term future views	Balance between long & short term
View to development*	Stick to plans	Stick to plans	Accelerate future	Redirect future

* Added by the author

Table (3-1) Comparing different attitudes towards problem management and development.

Thus, one can conclude that: The inactivist model is most appropriate when the internal and external dynamics of a system are moving in the direction where they want to go and as quickly as they would wish. If the problem relates to the speed of change, i.e. if the direction was right but movement is too slow, the preactivist model is recommended. Whereas if the direction was undesired, and one prefers to stay where they are or even to retreat to a previous position, the reactivist model is the best fit. Finally, the interactivist model is most suitable when one is not satisfied with the past, the present, or the currently foreseeable future.

3.5 Approaches to Development: Top-down vs. Bottom-up

Development is usually pursued through one of two approaches: institutionally centralised; and decentralised participatory emerging from local environmental issues. These approaches can also be labelled 'top-down' or 'bottom-up' respectively.

However, it is important to distinguish between decentralisation and democracy. Although these two concepts are highly linked in the relevant literature, there is no clear correspondence between widening public role and the pursuit of administrative power at regional and local levels. In a relevant metaphor, Slater (1989) depicts decentralisation as moving the state guns from the capital to the villages (Ingham, 1993). However, they are both important elements of people's participation, and this is discussed in more detail later in this chapter.

Top-down refers to centralised, externally planned, and large-scale programs. Garofoli (1992) describes this model as failing to stimulate growth in some Southern European countries during the 1960-70s. This was mainly due to cultural differences between the regions where these plans were formulated and where implementation was to take place.

Athanassiou (1996), however, outlines the need for top-down models in the case of ecological problems like ozone depletion and acid rain for example, where it can be more effective if implemented through precautionary, globally co-ordinated action rather than localised segregated efforts. Even some local problems like river pollution are often caused by practices of multiple parties sometimes over several regions of the country, which necessitates a centralised top-down action or co-ordination. Similarly, some social dimensions seem to have global implications, such as poverty for example, when studied in terms of resource-use fairness, and global trade treaties.

The bottom-up approach is characterised by self-reliance, being based on small local firms, depending on local resources [including human, physical, and institutional], and responsiveness to the actual needs of society under a dynamic flexible manner. This recognises local transformations and avoids the imposition of alien and rigid policies. The ultimate aim of this perspective is improvement in the quality of life of all members of society, both quantitatively and qualitatively. This involves selective growth, distribution, employment creation, and respect for human dignity (see Garofoli, 1992; Friedmann, 1979; Goulet, 1978).

The above discussion shows that the bottom-up approach alone is not an adequate solution, neither is the top-down in isolation. In pursuit of development, this apparent conflict can be used to identify an appropriate level of intervention, with reference to both the potentials for local contributions, and for global co-ordination.
To achieve favourable results, Carley & Christie (1992) suggest creating 'action-centred networks' which concentrate on specific problems, and engage all levels of administration, collaborating efforts of the public, private, and voluntary sectors. Where Wu et al. (1981) advocate a similar approach derived from the Chinese experience, claiming that bottom-up development can only function effectively within a clearly defined national framework that highly delegates power to the local people. However, this experience should not be taken as an ideal. That it has involved a margin of

suppression and disregard to the individuality of its people. The Chinese experience naturally has its own positive and negative features just like any other.

In terms of education, the extreme centralisation of decision-making, laws, government orders and regulations have considerably curtailed the freedom of action of local and regional administrations. The governments' role should be to establish broad outlines of educational policy which determine the administrations' operational framework. Local educational administrators should be allowed greater autonomy in budgetary management, educational programming and curriculum planning in order to meet local and regional needs (BIAC, 1984).

The following discussion sheds light on a number of developmental paradigms, which were undertaken in Egypt during different reigns, to explain how they have all contributed to forming the current under-developed status, with particular reference to their educational implications. Sustainable development currently receives world-wide recognition as a remedy for the negative consequences of these developmental strategies. The present research provides a detailed investigation of the positive and negative features of sustainable development, with the goal of finding the extent to which the selected paradigm, i.e. 'endogenous development', fulfils its positive objectives, and responds to its deficiencies.

3.6 Theory of Modernisation

The theory of modernisation was very popular in the 1960's – 70's. It is a part of the developmentalist tradition, which generally depicts societies as moving from simple, undifferentiated, agrarian systems, to more complex, differentiated, industrialised ones (Harber & Davies, 1997). More specifically, in economic terms it implies industrialisation and urbanisation, as well as technological transformation of agriculture. In the social domain it involves the weakening of traditional ties, and the rise of achievement as the basis of personal advancement. Politically, it is seen as the rationalisation of authority and growth of bureaucracy. With respect to its cultural dimension, modernisation is associated with increased secularisation arising from the spread of scientific knowledge (Ingham, 1993). Hence, modernisation theory strongly appreciates the values of entrepreneurialism, achievement, punctuality and aspiration (Harber & Davies, 1997). In conclusion, modernisation can be defined as change

towards those types of economic and political patterns that developed in Western Europe and North America in the eighteenth and nineteenth centuries (Ingham, 1993).

At early stages, development was considered by modernists to be virtually equivalent to economic growth. Social, cultural and religious values were sometimes largely ignored, being irrelevant or even representing obstacles to the process of development (Durry, 1992). It is claimed that if a country is underdeveloped, it is because it has not evolved the social, cultural and political structures necessary for industrialisation to take-off (Harber & Davies, 1997).

Taylorism is a characteristic concept associated with industrialisation. It is "a system that reduces productive operations exclusively to the mechanical, physical aspect" (Gramsci, 1986: p. 302). It breaks down complex and skilled operations into simple, repetitive unskilled tasks performed by the same individuals, to produce larger number of units (Charley, 1994).
The same source amends that Taylorism was the basis of **Fordism**, which regulates life at work, at home and at leisure in order to maximise efficiency, at the expense of unsociable working hours to achieve the highest possible utility of the 'factory's machinery'. Waddington (1977) suggests that modern industrialisation concepts like Taylorism and Fordism have empowered material domination and human brutality.

Jeffreys (1972) highlights some social consequences resulting from secularisation trends associated with the application of this model in Britain. When the State has weakened the role of religion in society, people have become more critical of unethical attitudes towards the community and are more likely to judge private morality. Institutional Christianity in the nineteenth century was not strong enough to assimilate changes in the social order to re-interpret morality, or to assimilate science and re-interpret doctrine. Consequently religious authority weakened and conduct partly broke loose from any kind of moral control partly discovering a new obligation to the state. Motawef (1996) reports similar examples taking place in Turkey during Ataturk's rule and in Iran during the Shah's. Whereas in Egypt, this seed has apparently been planted since the nineteenth century, at the time of the propagation of secularisation, encouraging women to remove their veils, and the like.

Modernisation is accompanied by serious stresses, such as the high level of conflict seen in developing countries, resulting in wars, civil unrest, ethnic violence, and political repression. There is also a strong association between of modernisation and ecological problems, including the loss of tropical rain forests, desertification, and the high cost of energy consumption in modern technologies (Hirschman, 1992).
In spite of this, Harber & Davies (1997) report that some values and ideologies of modernisation are currently witnessing a marked revival. This is attributed to a global emphasis on market policy, and the World Bank programs' concentration on the role of schools in the modern market economy. This is discussed in more detail below.

Under this theory, the schools' role is mostly seen to be in the teaching of skills required for the use of modern technologies, hence keeping the gap between developed and developing countries controllable (Hawkridge et al., 1990). Schools are also considered to provide the future workforce, and future parents adopting the values of economic advancement. In addition, such education usually involves teaching values that express congruence with modern bureaucracy, timetables, and punctuality, as well as the adoption of international values with higher esteem [being the founders and successful appliers of modernity] rather than with traditional paradigms (Harber & Davies, 1997).

A look at Mohamed Ali's reign in Egypt 1805-1848 reveals a strong tendency towards modernisation. In the industrial sphere Ali established huge modern weaving and spinning factories, as well as the creation of modern irrigation enterprises and barrages (Hyde, 1978). In terms of education, Ali started the high military schools and specialised institutes [e.g. medicine, pharmacology, management, engineering, agriculture] teaching modern technologies, and closing the gap between Egypt and Europe which existed at that time – in direct response to the need to provide a skilled work force in certain fields. In line with his modernist attitudes, Ali also sent missions to Europe and invited foreign experts to handle education in Egypt (Cameron & Hurst, 1983; and Fiki, 1997).

Modernist schools are essentially concerned with imposing discipline and control. This faces children with the hazard of being moulded through education to be factory fodder, neutralising the potential for the development of creativity and freedom of expression (Dudek, 2000). With reference to this model, schools were designed to prepare children for a life in the factory. As such, the schoolroom itself was viewed as kind of factory for

the receipt of knowledge, with children sitting in serial ranks (Dyck, 1994). The pupil is to enter the system at one end, follow a prescribed course, and emerge with a degree at the other. In the process he expects to acquire a 'modern' education (Mumtaz, 1985).

This view of schools as factories for the coming generations is negated by Jeffreys (1972). He argues that the meaning and value of a living entity belongs to it at all stages of its growth, unlike a process of manufacturing which is meaningless apart from the end-product, i.e. manufacturing is a means to an end, while development is an end in itself. He amends, in the factory the whole conveyor-belt process is wasted unless the end product comes out complete at the end. In the family, if a member dies young, his short life and limited achievements have their own unique values. In addition, there is no one point or stage of development at which one can say "the process is now complete; nothing remains to be done", there is no such hypothetical end product as in manufacturing.

The following discussion is based on descriptions by Dudek (2000) in addressing the evolution of school buildings during the nineteenth and twentieth centuries, where industrialisation flourished.

In the nineteenth century, the main emphasis in school-buildings was on form and external style with no reference to the interior function[2]. Following, several publications[3] concentrating on health and safety issues in school designs, more attention was paid to function. The dominant architectural style was named 'Queen Ann'.
Limited resources at that time led to some voluntary schools being comprised of only a single-volume space for instructing the whole school simultaneously.
Charles Rennie Mackintosh of the Scottish Art and Craft movement developed a characteristic style that combined decorative details, organic forms, and light airy quality of circulation elements. This style started to be seen in Scotland Street School, designed 1902 and completed 1906.
Pre-First World War, health and hygiene were dominant concerns in school designs. This resulted in the development of the so-called open-air school [also known as 'corridor plan', developed later into the 'finger plan']. An open-air school requires a garden site for classrooms to be completely opened on one side, enabling the practice of

[2] A notable publication in this regard is ' Design for Schools and School Houses' by Henry Kindall 1847.
[3] 'School Architecture' by Henry Barnard 1848 is an example of this.

outdoor teaching. The characteristic vocabulary of school design at that time included: spacious classrooms articulated as pavilions which were linked together by 'marching' corridors, colonnades, halls or open courtyards, combined the advantages of cross-ventilation with all-around natural light within classrooms. This design also retained a degree of autonomy for classes within a pavilion while at the same time feeling at one with the rest of the school campus. An example of this design is shown in figure (3-1) below.

Seaborne and Lowe criticised these schools, describing them as:

> *"among the most hygienic and ugliest of English school buildings"* (Seaborne & Lowe, 1977: p. 93)

School design in Egypt has seemingly stopped at this stage of obsession with hygiene. Even in designing the new schools project discussed later in Chapter Seven, the underlying concept is guided by the same notions as those catered for in the past.

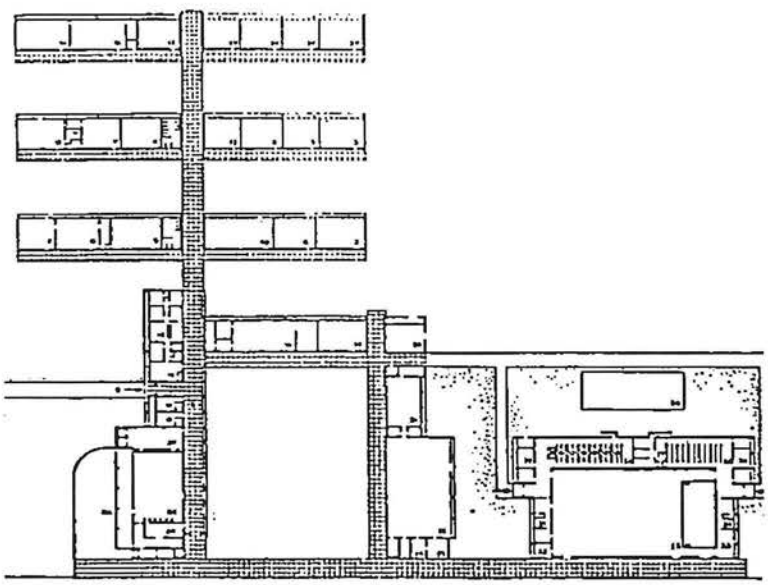


Figure (3-1) A 'finger plan' school [Acalares School – California]. (Roth, 1950)

Architecture at that time was influenced by the emerging Modernist Movement, the recognisable symbol of modernity, characterised by the rejection of all preconceived forms, precedents and traditions. Being purely based on logic and rationality, the new world will be composed of 'pure' forms, undiluted, pure, elementary geometric forms, and abstract forms, forms that exist in themselves, not dependent on external objects. The new forms thus created will be determined by the logic of 'function', they will be designed like machines for efficiency. They will be produced by machines. They will be perfect in their precision, cheap and abundant. Decoration was rejected. The materials

of construction must be left pure, with no applied decoration. The finished colours and textures of the buildings must be those of the natural materials themselves. The structural system must be expressed externally as well as internally (Mumtaz, 1985). Industrialisation resulted in the standardisation of architectural styles leading to the loss of cultural characteristics and authenticity in design concepts of the built environment (Zulficar, 1983).

In the 1930-40's, the architects' desire to lift the nineteenth century institutional weight of the building to reflect a modern visionary spirit was realised in the move towards lightweight building technologies and away from traditional masonry construction. For example, Sant' Elia nursery school in Como, designed by Giuseppe Terragni (1904 – 1943) was characterised by lightweight materials and fittings. Classrooms had opening partitions for flexibility, each classroom with its own outdoor terrace. Boundaries between indoor and outdoor spaces dissolved.

However, large glass panels and steel structure combinations, characteristic of this style, changed the sun reflections inside the classrooms as the sun moves, causing considerable teaching difficulties. In addition radical temperature variation resulted in the breaking of glass panels after chilly winter nights, producing unwanted maintenance expenses.

After World War II, schools were often located around the edges of expanding suburbs rather than in urban locations within the city centres. This allowed the provision of spacious classrooms, halls and green fields, which are basic elements of the open-air school.

Another economic features of school design included the organisation of classrooms around a central core comprising entrance hall, assembly hall or dining room [depending on the floor]. Circulation was through lobbies and communal halls without corridors. This was in response to criticism of the 'corridor plan' as being uneconomic in terms of wasting areas, materials, energy and time, especially in a period where many countries were short of labour and resources. This was described as a compact 'cluster plan', shown in figure (3-2) below.

The cluster plan resulted in very noisy halls - due to people meeting, talking and socialising there. Such activities, when taking place in corridors, allowed more peaceful and quiet halls. In addition, discarding those corridors produces a geometrical setting that hardly enables future integral extensions.

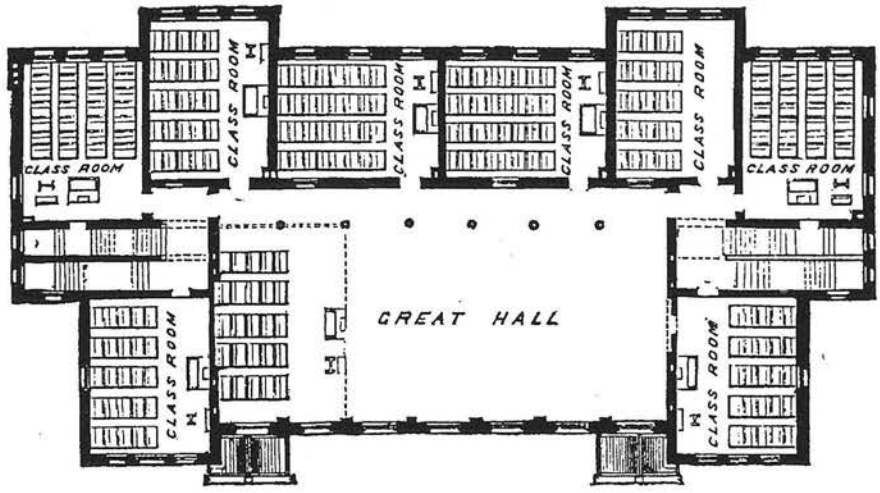


Figure (3-2) A 'cluster plan' school [Jonson Street School, Stepney - London] (Robson, 1972).

In response to a post-war shortage of material and labour, the Architects and Buildings Branch of the UK Education Department was established 1949 to provide good quality schools at a fraction of the traditional build coast. This group learned a great deal about prefabrication methods from local aircraft industries.

CLASP is a prefabricated school building system developed by the Consortium of Local Authorities Special Programme during the post-war years. CLASP combines factory-made steel frames with lightweight material such as tile cladding for walls and flat sheet coverings to the roofs.

In the 1950's Jean Prouve developed another prefabricated building system in France. The education boards were uncomfortable with the idea of prefabrication there. He constructed a school in Vilejuif 1953, which was made with robust cantilevered structural frames with planar steel frame windows, to create school buildings which looked very different of the so called 'regressive historical ones'. However, despite their advanced design they were condemned as temporary buildings within fifteen years of their completion.

Other examples of such prefabricated building systems are both the French COIGNET and BALLOT, the Danish FXNSPLAN, as well as the Swiss CROCS[4], which differed in the structure, roofing and partitioning materials and spans (Khafaji, 1987).

The 'Portakabin' is another prefabricated system developed in the UK, which is an advanced steel-framed 'box' system, rigid enough to be transported from site with all its finishes in place, including almost everything from the plasterboard to the toilet-roll

[4] *Center de Re'alisation et d'Organisation des Construction Scolaires.*

holders. The format is dependent on a module of pre-sized rectangular 'boxes' which fit together side by side once delivered to the site. It was an intention of the design group to emphasise the 'box' shape so that children will be attracted to its caravan-like image as different from conventional classrooms. 'Portakabin' is still undergoing development studies, proposing a variety of cladding options and roof profiles.

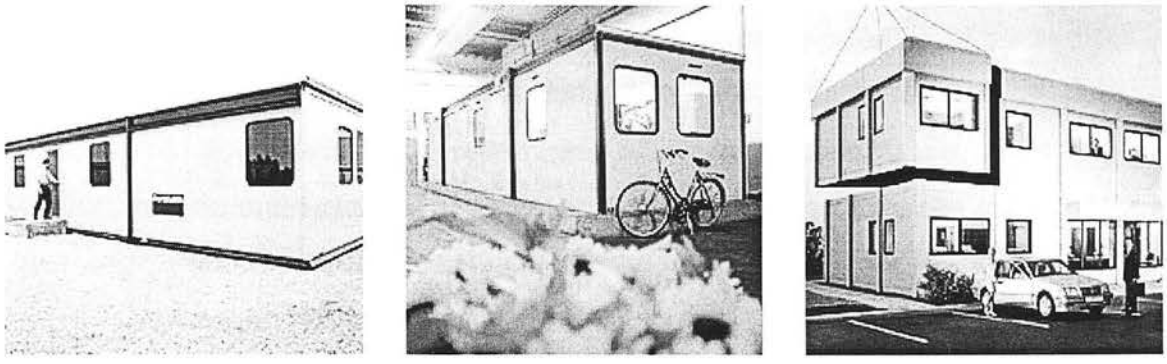


Figure (3-3) Examples of Portakabin units (www.portakabin.co.uk).

In addition to their aesthetic poverty, the stigma attached to them as temporary buildings, and the negative psychological effects; Dudek (2000) reports prefabricated schools to require high-cost maintenance, which is against the main idea of their use as an economic solution. Oddie (1975) concludes they were of no further benefit than conventional buildings, even in terms of time and economy. Consequently, many UK local educational authorities now refuse to commission prefabricated buildings.

3.7 Theory of Dependency

Initially an economic theory, the theory of dependency assumes the underdevelopment of a country to be the direct result of another's development, after exploiting its resources. Harber and Davies (1997) explain that making profit comes through buying poorer countries' resources at low prices, and reselling them as manufactured consumer goods at more favourable prices. This is more common with the structure of colonialism, where developing countries become dependent on developed ones for the import of the colonials' goods, as well as their definitions and values, while rejecting their own indigenous ones.

This relates to the experience of British colonisation in Egypt from 1882-1952, principally in terms of goods. The positive exception to this was the patriot efforts of leaders who were aware of a need to maintain local identity. Mustafa Kamel 1874-1908, Mohamed Farid 1868-1919, and Ahmed Lotfy El-Sayyed 1872-1962 struggled to make colonial authorities allow teaching in the Arabic language and relevant to local culture (Raf'ie, 1948). Other African countries that have not had the same opportunity retain

French, for example, as their daily first language, even though it has been decades since French colonial occupation ended.

Ackoff (1974) argues that development and underdevelopment are two interdependent phenomena, supporting this by an example from the American oil industry, where crude oil is brought over from less developed nations at low prices.

The possibility of cultural domination under such circumstances could be significant, and may take place through several paths. The first is believed to be through an economic path, in which the workforce of underdeveloped countries seeks job opportunities in multi-national establishments. These jobs usually pay higher salaries, and allow workers to achieve more desirable standard of living (Harber & Davies, 1997). Such establishments often require candidates to have special communication skills, usually foreign language abilities, and adherence with foreign culture. Therefore, the economic dependency becomes cultural, and educational to provide graduates capable of obtaining such widely appreciated jobs. This is common in contemporary Egyptian society, particularly in the current depressed economic climate.

Hayter (1971) reveals another version of dependency in the form of international aid. Such aid is usually provided only when many conditions are fulfilled by the receiving country. These conditions do not only relate to the projects of donation, but also extend to internal political arrangements. An example of this is the so-called 'structural adjustment policies' of the World Bank applied to borrowing countries, including Egypt (Monshipouri, 1995).

Similar dependency took place in Egypt during Khedive Ismail's rule from 1863-1879. In spite of his many successful achievements[5], Ismail was totally dependent on foreign loans, allowing significant foreign intervention in the running of Egyptian enterprises in their favour[6]. When Egypt declared bankruptcy in 1876, the British and French intervention became direct, buying shares in the Suez Canal Company to refund to their loans, then appointing two 'Controller Generals' to fully control Egypt's financial policies (Caselli, 1992). In the 1980's, Egypt's international debts reached a huge

[5] Digging Suez Canal and other 112 ones throughout the nation; setting 400 bridges; improving railway, telegram, and post system; opening the Opera House, the National library, Geographic Society and Observatory (Caselli, 1992).

[6] Examples of this: a) Suez Canal Company was managed by Ferdinand de Lesseps who was French. b) Khedive signed a contract that entitled this company to the entire Canal revenues and investments for entire ninety-nine years. c) The Bank of Egypt had its board of directors in England. d) Alexandria Water Company had its board of directors in France (Lahita, 1945).

amount. To avoid a similar situation, governments since then have adopted a policy for rationalising loans and aids. However, these are still considerable.

Loans provided by the World Bank are rarely sought by high growth countries, as better terms are available to them on the private loan market. The remaining poor economies have reduced their loan demand because they lack the means for loan repayment (Bandow & Vasquez 1994; Wood, 1989).

The World Bank's interest in poverty alleviation, education and health improvement could be interpreted as to benefit the WB itself and the wealthier nations. First, it maintains a client base of poor countries in the face of a declining demand for loans from high growth countries. Second, it serves the interests of wealthier clients by helping to maintain stable political, social and economic environments which lower investment risk costs and foster environments which are 'market friendly'. Third, it puts resources into those countries which are at 'risk' of being excluded from full participation in global markets and the inherent benefits which that brings. WB education loans are confirmed to have opened fragile economies to the powerful interests of the global economy (Betz, 1990).
Many authors have criticised **structural adjustment factors for failure to bring the poorest countries into the global market** (Brown & Tiffen, 1992; Simon et al., 1995; MacEwan & Tabb, 1989). Writers and policy-makers **within the WB officially acknowledge that structural adjustment policies had negative social consequences** (WB, 1994).

WB loan agreements often divert funds from the target recipients. This takes place by paying high fees for outside consultants, including consulting fees for principals [who usually are corrupt key officials passing the project], planning long and expensive trips for government staff to consult on the designed project abroad, and last, doing very little to alleviate wastage of supplied materials (Ilon, 1996).

Harber and Davis (1997) outline another perspective of such domination that relates to the capability of financially powerful foreign publishers. These publishers can provide textbooks at competitive prices, limiting opportunities for domestic publishers, and resulting in public cultural domination. This becomes worse when such books are provided in schools. Yet the explanations, examples, exams and assessments are driven

by imported criteria, placing such cultural dependency at even earlier educational stages.

Applying this to the built environment, a pupil cannot relate the theory he is taught to the actual buildings he sees around him. The buildings he experiences, walks through and lives in are never discussed, and far less explained theoretically. The aesthetic sensibilities he acquires are acquired uncertainly, because they are from a culture to which he has no direct access, while the aesthetic sensibilities of the culture to which he belongs are rejected before they are studied critically (Mumtaz, 1985).

However, the dependency theorists interpret the capitalist influence in schools as having divided students into two groups. First, the advantaged elite, attuned to a place within world elite, looking outwards rather than inwards, i.e. more open to international insights, and secondly the proletariat workers destined to be exploited by multi-national firms. From this perspective, schools will teach students economic consumer values and market competitiveness, in addition to the acceptance of the superiority of the industrialised cultures (Harber & Davies, 1997).

In his theory, **Paulo Freire** (1970)[7] argues there is a sort of oppression in such capitalist models; thus, alternative emancipatory educational enterprises should take over. Such alternative projects have to support nationalism, by reviving traditional culture and language, emphasising the country's past as well as identifying its current place within the global system, and growing the seeds of responsibility and compassion among fellow citizens, especially the disadvantaged. In addition, schools have to direct the taught sciences and technologies towards supporting local enterprises, and providing students with the skills needed for global communication and competitiveness.

In other words, the tension here is between the imitation of foreign style and seeking external help, and the promotion of indigenous policies for independent, self-sufficient development, emphasising reliance on local resources and local culture (Motawef, 1996).

A central problem many Muslim Countries confront is the process of disassociation from their cultural roots. This had led to the dichotomisation of cultural perception,

[7] Theorising in general can be divided into 'explanatory' and 'perspective'. 'Explanatory theories' are the ones that stop at the cause and effect stage, leaving the implications for change unformulated. While 'perspective theories' are concerned in studying what changes should be done, and may leave explanations of the current situation implicit. Thus, the modernisation theory is both explanatory and perspective, where dependency is primarily an explanatory one. Freire's approach is a 'perspective version' of the dependency theory.

where the historic heritage - cultural religious, spiritual - is identified with the past backwardness and poverty, while the future, **the image of 'progress' is borrowed from elsewhere**. The problem created by this externally borrowed 'image of progress' is significant. It poses a challenge for designers, sociologists and philosophers who have to articulate, for the Muslim societies of today, a vision of the future which is culturally authentic and yet incorporates all of the progressive elements that societies in transition rightly aspire to (Serageldin, 1983).

3.8 Transitional State Theory

Carnoy and Samoff (1990) developed studies to examine the dependency theory, in which they principally addressed countries experiencing transition from monarchy, colonialism, capitalism or other systems towards new **socialist** programs. Such revolutionary changes express adherence with interactivist attitudes discussed earlier, which is characterised by changing the future rather than ignoring it, retrieving past situations, or even speeding it up.

Although developed countries place considerable economic demands on their societies, they provide considerable opportunities for participation. This level of participation does not exist in Third World countries, where any change usually comes through charismatic leaders in the absence of institutional legitimacy. Carnoy and Samoff (1990) refer the reason for such low participation in post-capitalist societies to the desire of revolutionary movements to keep centralised control of everything. This helps rid society of the particularistic, authoritarian and corrupt practices associated with previous regimes. They are also focused on promoting capital accumulation within the context of enriching state bureaucrats, and enhancing their power (Harber & Davies, 1997).

In other words, citizens do approve and support the revolutionary ideals, but they lack institutions through which they can translate such support into direct political action or influence. The revolution of 1952 that ended monarchy in Egypt is a model that actualises such a case. Centralisation, control and protecting the revolution were the dominant vocabulary that undermined effective public participation at that time.

Probably the most common conflict in transitional states usually takes place between political forces wanting to tighten control and promote technocratic reforms. On the one hand, this enhances economic growth, and on the other hand supports groups wanting to

promote equality, democracy, participation and the decentralisation of decision-making [in a way, preactivist – interactivist conflict].

The complex task for education is to find a formula that combines participatory democratic institutions with technically specialised knowledge. Such a formula suggests that education should suppress critical analysis and be more descriptive, so that the population would be less participative and less threatening to those in power. Thus education ends up as a functional tool for economic growth, rather than a political foundation for social transformation (Harber & Davies, 1997). This may be envisaged as:

> *"Education in transition states ... continues to be characterised by formality and hierarchy. In part, this reflects the emphasis on the development of basic skills and the importance of maintaining centralised control in a situation of persisting external threat."* (Carnoy & Samoff, 1990: p.363)

Thus, education in transition states is seen to be basically a tool for political and functional literacy as well as a key to economic and social growth, especially for the less empowered strata.

Harber and Davies (1997) describe the schools role within this theory under the following two major dimensions. First, for the political dimension, education is seen to have a crucial role in terms of fostering a high sense of nationalism. This creates a consciousness of collective responsibility within the state, promoting critical awareness and participation, but without threatening the state order. It should also disconnect the wealth of capital ownership from the political power given to labour, yet it must also transform social relations making labour as the keystone for a more productive and modernised economy.

Secondly, as for the socio-economic dimension, increasing skills and reducing inequalities are the key words, the sort of equality to be promoted under this theory should include all sectors, i.e. race, gender and social stratum, besides emphasising the new collective roles of individuals and families within the state development context. In terms of transitional state theory, schools have to provide the population with skills needed for material production, maintaining a clear connection between theory and practice.

The impact of such material growth objectives on education is usually misinterpreted under two short-term responses. The first is to reduce primary education expenditure not directly linked to productive investment. Even if initial expansion in primary education takes place, it usually witnesses cutbacks afterwards. The second is a tendency towards

spending on universities and technical institutions, so that a highly trained population directly influences economic efficiency and production (Harber & Davies, 1997).
This is identical to the situation in the 1952 revolution reign in Egypt. The 'School Premises State Foundation' established three hundred and seventy-two schools in its first year 1952 (Hussaini, 1957), this then declined considerably in line with a gradual increase in the opening of new universities and technical institutes thereafter.

3.9 Fragile State Theory

Fragile state theory adopts a broader view of 'transitional state theory', arguing that many developing countries seek **survival under any system not necessarily socialism**. Perhaps the clearest example from Egypt's history is the controversial change during Sadat's rule from 1970-1981, the guards of the old regime were exiled as part of the so-called 'rectification revolution' to shift the Country's policy towards capitalism.

Fuller (1991) argues that fragile state theory explains the association between the growing foreign schools in Third World countries and the spread of social, economic and moral problems, and the increased legitimacy of weak authoritarian bodies.
Harris (1989) praises the role of missionary schools as a means of interaction between less developed countries and more advanced nations. However, this approach forces cultural change seriously endangering the local culture, in its efforts to cope with international paradigms arriving with these missionaries.

Within the context of this theory, a state has to believe in expanding schools, while maintaining interdependencies with other powerful institutions, elite groups, and local communities. There should be an emphasis on legitimising the liberal authority's as a means by which its ideals and symbols can be actualised. Standardisation of curricula, teachers' preparation and school management are usually directed to eradicate any inequalities caused by previous regimes, yet also need to support the legitimacy of the state (Harber & Davies, 1997).
To sustain and improve their legitimacy, authorities tend to address the link between education and employment as secondary, because if they could not provide suitable employment for the graduate masses, faith will decline in education, other state institutions, and even the governing regime. Thus, they rather relate the family and state economic improvement to the current level of school effectiveness and academic achievement. Students and teachers bear the responsibility of not reaching the required

standards, rather than blaming the state for its inability to improve life quality or provide job opportunities (ibid.).

It seems clear that both transition state theory and fragile state theory have a role to play in achieving development. However, concerns about security of the ruling system and control over the population and resources seem to be given higher priority.

Theorists suggest that the response required from a ruling government is to reach the complex balance between 'warming up' and 'cooling down' processes, as discussed below. State plans necessitate preparing large numbers of educated workers to widen the base of employable citizens. This is referred to as an act of 'warming up'. 'Cooling down' refers to the process associated with calming down the remaining unemployed graduates (Hopper, 1971).

Under the fragile-state view an effective school should emphasise the sense of nationhood, acceptance of bureaucratic routine, and encouragement of community-finance. It should also involve some level of internal inefficiency, to which any political deficiency would be referred. Individual assessment should be applied too, in order to localise or internalise any failure. Finally, as not to endanger the power of the system, the curricula taught should be centralised, with limited teacher autonomy (Harber & Davies, 1997).

Several points from the above criteria are highly relevant to the current educational status in Egypt. Examples include the centralised curriculum, bureaucratic routine domination [although not widely appreciated], limiting individual effects, and encouraging public finance - as applied in the post-earthquake school rebuilding program, which would be discussed in further details in Chapter Seven ahead.

When a state cannot afford the full finance needed for education, the demand for community financial support arises. Conflict can be expected to take place between people's right to share in decisions [at least due to their financial contribution], and the state desire to maintain central control. Thus, consensus on unified educational objectives may become endangered if local economies and elite groups do not support the state institutions (Harber & Davies, 1997). Similar notions and ideas to dissolve such conflict are discussed in the civic capacity approach in the next chapter.

3.10 The Market Place Model

Global economy, free trade, and cost-benefit analysis are very common terms used in the market place model. This model tends to label everything in terms of material value, and tends to manage things with reference to their economic reward and financial feasibility. An example of such marketisation took place during Sadat's rule in the application of the 'open door policy'[8]. This policy involved the relaxation of government controls on the economy to encourage the private sector, stimulate inflow of foreign funds, and attract advanced technologies, using the versatility of economic relations as a basis for political freedom (Hyde, 1978).

Widespread trends towards globalisation have paved the way towards further publicity for this way of thinking. On the educational front this increased parental choice in terms their children's schooling. It is argued that this will create competition between schools to improve the quality of their services, just as product quality is driven by consumer choice in a market place model. The problem here is to do with the degree to which parents may exercise this responsibility wisely. This may result in the closure of less popular schools while those in demand may expand without limit. Catering for disabled pupils involves further costs, which is a questionable consideration in free market run schools (OECD, 1985).

A major deficiency in undertaking such a model in Egypt is that it does not consider local traditions and values, potentially resulting in severe social setbacks, and the extensive domination of materialistic values, creating a fertile medium for bribery and corruption. The effect of these phenomena on education can be seen in three main ways. The first is an increased investment in private luxurious schools with high tuition fees, indirectly undermining state education. The second concerns the personal attitude created among teachers, fighting to get out of their low-income dilemma, and either giving private lessons to boost their income or seeking higher paid jobs in other oil-rich Arab countries. Last but not least, corruption extended to school building and repairs projects, with many schools encountered cracks shortly after completion, and shortages being seen in school repair budgets, both consequently compromising school safety (MOE & USAID, 1990).

[8] Literally: *Al-Infitah*.

In addition to the notions discussed above, there are other implications of the globalisation and marketisation of education. These mostly from the dominant role of economic values, reliance on foreign traditions, tendency towards internationalisation, weakening local identity and culture, and a reliance on alien imported models. Ingham (1993) suggests that such global models may only lead to the further growth of existing wealthy nations, and the marginalisation and powerlessness of the poorer ones. Such growth through international trade may conflict with the goals of self-reliance and independence, which developing countries have a right to. In spite of the gains achieved from such international exchange, there is no guarantee of equality in such situations.

In response to free-market strategies, many commercial school operators[9] build nursery schools on the basis that if the market for childcare changes, the building can resort to office use, without compromising architectural quality (Dudek, 2000).

Privatisation is a global trend that, throughout the last few years, has been increasingly spreading in many countries influenced by the 'market' model [as well as in Egypt]. This process began with industrial and commercial enterprises, and only more recently has been debated with regard to its influence on social and educational factors. Due to the current situation in Egypt, and calls for school privatisation as a means of development, the following section discusses briefly the notion of privatisation, including examples and experiences of different countries. Although each situation is different, and it is impossible to commend a single universally desirable model, comparative studies should generate ideas, and highlight some advantages and disadvantages of the different models. The creation of specific models for certain societies is a potential outcome.

Privatisation is the process of moving towards more private **ownership**, **financing**, and/or **control**. It should be clear that this tri-dimensional process might not involve all three dimensions at once. A school may for instance receive non-governmental finance, but remain controlled by the state (Bray, 1998).
However, to many people privatisation is a return to origins rather than a totally new process. Education initially used to be private [e.g. teaching in temples, churches, mosques and elite palaces], and governments have only started to take responsibility for education since the nineteenth century (Green, 1990).

[9] e.g. 'Jigsaw' in the UK.

With regard to the Egyptian context, one can refer to the Pharaonic eras where schools were attached to temples (Saleh, 1966), and the Roman Byzantine reign 30BC-640AD when schools were appended to churches and abbeys (Habib, 1966). Similar patterns were seen in early Islamic periods with education taking place in the mosques – as with Amr Ibn El-Aas Mosque in Cairo. The tradition of teaching in elite palaces started in the Umayyad and Abbasid eras (Ghouli, 1991), though it flourished in Egypt during the Fatemid reign 969-1171AD (Shalaby, 1966).

School privatisation should not be looked upon as giving up the country's educational premises to the private sector with no governmental influence at all. This can take place through a range of different strategies, the most common of which are discussed below, in accordance with Bray's (1998) classification:

1. Transferring state school ownership to the private sector, allowing them to control curricula, staffing, pupil recruitment, and the charging of fees; where the governments responsibility rests with establishing minimum qualifications for teachers and maximum tuition fees. This is similar to the model employed in Singapore in 1987 (see Tan, 1993).

This type of model is not always driven by economic forces. In South Africa for example, change occurred for racial reasons, and in Mozambique was initiated as a result of the handing back of ex-nationalised properties to the original owners [e.g. Roman Catholic Church]. In Poland and Hungary change followed partial decentralisation (Kozakiewicz, 1992).

2. Shifting sectoral balance; i.e. unequal rates of increase [or reduction] between government and private schools, likely to be in favour of the latter.

In Tanzania for example, this model was implemented as a remedy to the long established socialist ban of private schools (Samoff, 1991). In the former Soviet countries it was to serve the new economic elite. By contrast, in China this trend was part of the adopted marketisation policy and planned economic diversification (Bray, 1996).

3. Increasing governmental finance to private schools is another way of supporting private institutions. This process should not be associated with extensive state control. Comparable systems operate in the Netherlands and the United States where schools are funded on the basis of student enrolment (Hakim et al., 1994).

4. Increasing private finance and/or control of governmental schools while the property ownership remains governmental. Finance is clearly needed in response to state

impotence to cover full educational costs, as in Uganda, Nigeria and Vietnam (Bray, 1996). Private control is usually associated with more economically stable, developed countries like USA, UK, Canada, and Australia where promotion of competition is encouraged in terms of the distribution of pupils and financial resources among schools. In the United Kingdom for example, a board of governors [including parents and community members] decides how to spend school budgets, and controls the curricula and staffing issues (Bray, 1998).
In Latin America, there has been another type of privatisation, that generally fits within this context, this involved placing some government schools under the management of non-governmental institutions [e.g. church bodies] (ibid.).

Proponents of privatisation argue that it creates better efficiency in terms of cost and quality, as well as providing higher levels of access by increasing the overall number of student places in a country. In contrast, other theorists claim that it is not necessary to privatise schools, and that successful management policies pursued in private schools can be applied in government ones [e.g. further authority, flexibility, autonomy in recruitment, punishment...etc.]. In addition, fee-paying is often seen as a serious threat to the principles of free access and equality among students (Bray, 1998).

It is crucial to distinguish precisely between different types of private education on the basis of realistic observation, rather than reliance on traditional misleading interpretations, considering all private schools as commercial enterprises. Government-aided schools and alternative-curricula[10] schools for example are not truly government schools, or for that matter versions of private ones, but are definitely different from other profit-making schools.
Determination of the type of privatisation is equally important to avoid any distortions, and not to generalise privatisation models to other mismatching contexts.

Disparities between public and private systems should not be allowed to increase, neither should a trend towards making parents pay more for services provided by schools increase divergence between them. Private schools may be selective in terms of class [with economic limitations to access], race, confession or ideology, and they may be regionally concentrated, whereas public schools must serve all children everywhere. The danger of polarisation is strengthened if, at the same time, a stagnation of resources

[10] Mostly to serve particular religious or ethnic groups in a certain society.

for public education leads into larger class sizes, less technical and other facilities, and cuts in the salaries and training of teachers. It is also strengthened by attempts to insert or solicit private-sector funding, to make-up for insufficient public financing, as such funding is bound to be selective. TUAC underlines the importance of open access to, and universal availability of, high-quality public education (TUAC, 1984).

Bray pinpoints his view of privatisation so as to maintain a number of crucial balances:

> *"Efficiency can be improved, but only at the expenses of quality. Choice may increase, but only at the expenses of equity. Budgets may be cut, but only at the expense of reduced governmental control. Rarely is it possible to achieve all goals in a straightforward way."* (Bray, 1998: p. 129)

Yet, there is no overwhelming conclusion regarding the cost advantages of private schools over public ones, or the contrary (Riddell, 1993). School privatisation is an area that still needs further research. It is believed to be still too early to measure and assess experiences, and implemented changes could take more time to show significant results (Orr, 1996). However, it is clear that the fundamental determinant for a successful school is not whether it is public or private. There are many additional variables that govern such outcomes, including parental involvement, supporting children, autonomous control, public participation, backing the community aims, and many others discussed in the following sections of this research.

3.11 Sustainable Development

In a world such as we are living in today, with marked movements towards globalisation, international agencies with world-wide representation, and the amazing communications revolution of recent years, Egypt [as part of this world] is currently witnessing a wide exposure to sustainable development as a remedy for setbacks caused by previous developmental paradigms. Sustainability is often used as a fashionable label for professional desirability. It needs to be re-assessed to know if it is the right model of development to be adopted. The following analysis briefly introduces its principles, goals and educational implications.

The concept of sustainability is strongly associated with environmental protection, dealing with notions of air pollution, energy production and waste disposal [e.g. nuclear and radiation hazards especially after Chernobyl crisis in the former USSR]. In addition

to river pollution, acid rain[11], ozone[12] layer depletion, rationalising reliance on fossil fuels with regard to depletion and pollution hazards, climatic changes and global warming[13]. These issues were initially promoted in the 1992 Earth Summit of Rio De Janeiro [14] that resulted in the famous '*Agenda 21*'[15]. Yet, environmentalism is argued to be the principle origin of sustainability, being widely supported by research institutes, NGO's[16] and the work of environmental authors, in parallel with the international efforts highlighted earlier (Nabih, 1999).

Nabih, (1999: p. 37) defines sustainability as "the ability to sustain, i.e. to enable [something] to last out or keep going continuously ... sustainability is the ability to achieve sustainable development". Where the most common definition of sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987: p. 43). In other words, it is "A pattern of social and structural economic transformations which optimises the economic and societal benefits available in the present, without jeopardising the likely potential for similar benefits in the future" (Goodland & Ledoc, 1987).

3.11.1 The Fundamental Principles of Sustainable Development

Sustainable development is generally based upon three basic general principles, under which should go all its approaches, goals, actions and applications; those are briefly outlined under the following points:

- Inter-generational equity [futurity]: human activities should not over-exploit the finite resources, not to endanger the future generations' needs of them.
- Intra-generational equity [social justice]: justice in simultaneous consumption of world resources among different populations.

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[11] Rain, snow, fog and mist, which have been acidified by the atmosphere principally when contaminated by oxides of sulphur and nitrogen (DOE, 1994).

[12] Ozone is a naturally occurring chemically reactive form of oxygen found as a gas in the atmosphere. In the upper atmosphere it protects the earth from harmful ultra-violet radiation, where it is considered a secondary pollutant in the lower atmosphere (DOE, 1994).

[13] Increase in the average temperature of the earth, partly caused by greenhouse gases (DOE, 1994).

[14] 1st international conference on environment took place in Stockholm 1972 under UN auspices, followed by Vienna 1985 then Montreal 1987. 1st conference after Rio summit was in Manchester 1993 then 1994 which concentrated on sustainable cities and built environment, until Japan summit of 1997 that witnessed debates about buying the industrial countries for the 'pollution shares' of others (Nabih, 1999).

[15] A comprehensive program of action needed throughout the world to achieve a more sustainable pattern of development for the twenty-first century (DOE, 1994).

[16] Non-governmental organisations, e.g. 'Green Peace' and 'Friends of Earth'.

- Trans-frontier responsibility [polluter pays]: allocating the responsibility for pollution and resources' over-exploitation between different populations, examples of this are acid rain and over-fishing (Haughton, 1994).

Although many literatures add sub-categories to these, they still seem to be the most agreed on, as well as the most general and comprehensive.

3.11.2 The Basic Goals of Sustainable Development

There are three major goal groups of sustainable development [i.e. environmental, economic and social] which all interact, overlap, co-affect and contribute to one another in favour of improving the quality of life (see figure 3-4 below). Although, in contrast, some theorists believe that both the social and economic goals have to work together towards sustaining the natural environment and serving environmental ones.

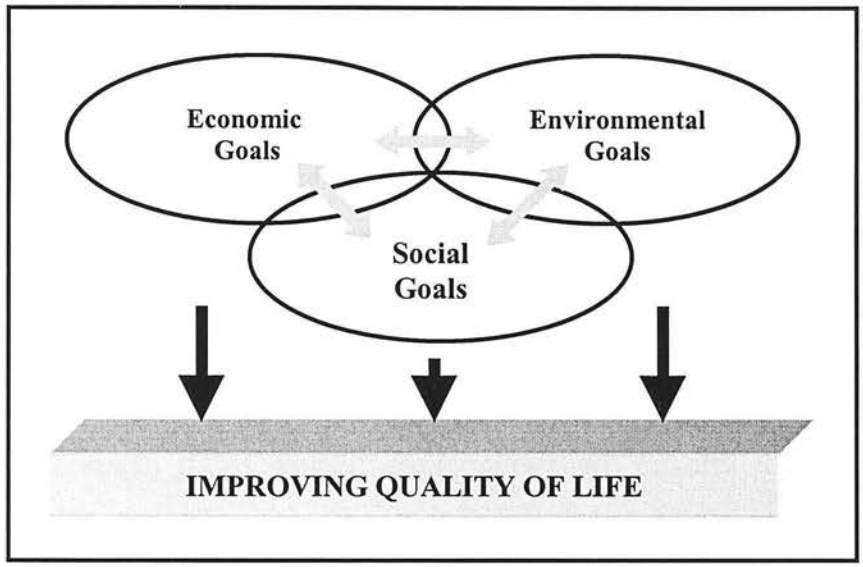

Figure (3-4) Researcher's view to sustainable development ... inspired from (Nabih, 1999) and developed by the Author.

These goals are being continually modified, developed and added to. This section is not intended to give a full list of them, nor even apply them to a particular case; it only establishes a background and broad understanding for the forthcoming discussions.

1. Environmental Goals

Environmental goals, also referred to as 'ecological goals', include issues related to protection against destruction of the natural environment with its negative consequences on eco-balance, natural resources, wildlife and habitats; whether directly or indirectly. Direct destruction is usually associated with urbanisation practices, like destroying rainforests for logging purposes, building new roads, or implementing building projects. Where indirect destruction refers to air, water, and solid pollution, i.e. land pollution

and solid waste (see Haughton, 1994; Tolba & Kholy, 1992; DOE, 1994; Roseland, 1992; and Nabih, 1999).

2. Economic Goals

The three main economic objectives of sustainable development are:

- Achieving strong economic growth and performance;
- Promoting sustainable economic activities and industries; and
- Maintaining diverse local employment and self-reliant livelihood (see Gilbert, 1994; Haughton, 1994; Nabih, 1999; Geiser, 1991; and Roseland, 1992).

These economic goals should apply to all the following fields: manufacturing and services, agriculture techniques, forest cover and woodland protection, fisheries, mineral extraction rates, energy supplies and efficiency, waste management, construction and development policies, transport influences, and leisure including tourism, sports and recreation (DOE, 1994).

3. Social Goals

A thorough look at most of these goals reveals major concern and acknowledgement of a need for fairness, equity and rights among minorities and countries. Each should have the fair opportunity to develop according to its own cultural and social values without denying others the same right (FOEN, 1996).

This essence of equity within social goals can be clearly seen in the following manifestation: human rights; health; shelter provision; poverty eradication; equality between peoples generally and among specific groups like disabled, women, and children; education and environmental awareness; promoting family and community roles, participation, political and civic rights; promoting social and cultural values. What is more notable about this is probably that much of the literature includes 'improving quality of life' itself as one of these goals, probably to cover any unmentioned objectives in the future (see UNCHS, 1996; UNEP, 1999; UN, 1985; UNICEF, 1989; UNCED, 1992; Hart, 1999; DOE, 1994; Selman, 1996; Arnstien, 1969; White, 1981; Boothroyd et al., 1994; Stevenson, 1998; Ospina, 1999; Barati, 1997; and Nabih, 1999).

The following figure (3-5) briefly introduces the major goal groups of sustainable development discussed above.

The Goals of Sustainable Development

Environmental (Ecological) Goals

-Sustaining Eco-balance
-Dealing with Air Pollution Problems.
-Dealing with Water Pollution Problems.
-Dealing with Soil Quality & Solid Urban Waste Problems.

Economic Goals

-Achieving Strong Economic Growth & Performance.
-Promoting Sustainable Economic Activities & Industries.
-Maintaining Diverse Local Employment & Self-reliant Livelihood.

Social Goals

-Respecting Human Rights.
-Preserving Human Health.
-Promoting Children & Youth Rights.
-Supporting Disabled Population.
-Preserving Local Culture.
-Providing Education.
-Eradicating Poverty.
-Emphasising Women's Role.
-Strengthening Family Role.
-Promoting Public Participation.
-Providing Shelters.
-Improving Quality of Life.

Figure (3-5) The goals of sustainable development.

3.11.3 Education and Sustainable Development

In addition to 'education' being an objective of sustainability in itself, it should also be seen as means to bring about changes in behaviour and lifestyle, to disseminate knowledge and develop skills, and prepare the public to support changes towards sustainability in all sectors of life (Ospina, 1999).

'Environmental education' is the educational model developed to support sustainable development and to achieve its agendas. In association with UNESCO, the Work Group for National Strategy for Environmental Education (WGNSEE) defined environmental education as:

> *"Conveying environmental attitudes, knowledge skills and preparedness based on pedagogical thinking so as to strengthen the environmental awareness of pupils and students. Where environmental awareness is a will and ability* ***based on the principles of sustainable development*** *to live and act at home, at work, during leisure time and social activities."* (WGNSEE, 1991: p. 13 - Author's emphasis)

Environmental education should work both directly and indirectly. Direct application refers to propagation for environmental knowledge and the concepts of sustainability, and including them in the curricula to create further awareness of the area. Where the indirect application is seen to come from applying these principles within the school life as a little community, that responds to and reflects the values of the whole society.

Examples of this include promoting healthy applications, equality, supporting less fortunate students through balanced workgroups, appreciating family roles in child guidance and school management, strengthening children's participation in school issues, and involving balanced proportions of male/female staff and students. However, there are lots of conferences, workshops, projects and publications held under the UN auspices [as well as other bodies] with regard to this particular notion [i.e. education and sustainability]. The above only represent a brief demonstration of some educational applications responding to sustainable development (e.g. see UNECD, 1992; Davis, 1997; Scoullos, 1998; Hart, 1999; EPD/UNESCO, 1999).

It is clear from the WGNSEE definition above that this model confines education solely to sustainable development principles. It would have been more fruitful to address development as a holistic concept rather than being dedicated to a single particular paradigm.

Identifying the principles of environmental education, WGNSEE (1991) states:

> *"Knowing that people take decisions according to their own set of values, and that it is not always easy to adopt new values, although in respect to the environment it is often necessary. Yet, environmental education should be bound to values and is to consider education in values"*

Values are scarcely addressed as a result of education, values are more to do with social settings, culture and inherited codes. Values do not change, they transform in accordance with social pressures to adapt to new states of homeostasis.

Another application of sustainability to school buildings is the adoption of 'green architecture', using 'environment friendly' materials, and building for rational energy consumption. "schools in the UK spend approximately £400 million a year on heating and cause the production of 6 million tons of carbon dioxide" this is blamed on the use of thermally poor building materials (DES, 1994: p. 8) On the other hand, a recent UK study concludes that the main factor to lower consumption was effective energy management practices, for which the users and school-administration are responsible (Dudek, 2000).

Referring to the Egyptian context, schools do not pay for their consumption of water or power, and have no control of funds, as is the case in the UK. It is the government itself that manages this expenditure. This does not make school-administrators feel responsible for the rationalisation of consumption – one can always see broken water

taps and pipes, electric lamps lit in the sunniest days and when nobody is using the space. Participation is a crucial element to solving this problem.

However, sustainable development is frequently claimed to be a **contradictory term**, in that sustaining a thing refers to maintaining its current condition, where change is an essence of development. Although, sustainability proponents like Roseland (1992) advocate that it should be understood as the type of change that can be sustained in the future, including the sustainable use of resources, sustenance of healthy climatic conditions, and desirable quality of life.

Being a very broad multidisciplinary notion, Dovers and Handmer (1993) claim that almost any group can find their own interest somewhere within sustainable development. Therefore, **it is hard to be against it in general**, which makes it possible for competing groups to use it towards achieving different or even contradictory ends. Such contradictions can be seen in the conflict between 'individual versus collective interests', 'intergenerational versus intragenerational equity' and 'adaptability versus resistance'; just a few examples.
Just as various groups have different perspectives on the 'environment'[17], each attaches its own meaning to sustainable development. Depending on which view of the environment is held, and which meaning of sustainable development is adopted, opposing interpretations are vigorously rejected among confronting parties, who are all considered as working under the same umbrella, namely sustainability (Samson, 1995). In other words, *'Agenda 21'* [common known as the 'Bible of Sustainability'] is accused of **lacking a clear framework** for co-ordinating the interaction between such huge heterogeneous attendant disciplines and interest groups [e.g. political, social, ecological, commercial ... etc]. This resulted in many **disagreements within**, for example population control is in contradiction with some religious ideals, where fossil fuel rationalisation policies are against the commercial interests of oil producing nations, and north-south debts clearly disturb industrialised countries (Stevenson, 1998).

Often in the beauty contests [where contestants are subject to very precise measurements] the spectators appreciate contestants other than the winner, even if she fulfils those measurements more precisely. Yet, such **objectification** [as in

sustainability goals] does not necessarily lead to best results, it may conversely make things meaningless.

Similarly, appreciation of water for example has different interpretations, i.e. recognising water as H2O does not grasp its connotation with the meanings of life, purity, continuity, flow...etc. which it involves. Likewise, a piece of bread might be seen as a bunch of minerals, proteins, carbohydrates ... etc. where in oriental cultures and Islamic rituals it symbolises the gift of God to mankind. In such cultures, seeing a piece of bread thrown on the floor necessitates picking it up and even kissing it, being God's endowment.

In a similar sense, Reinecke (2000) criticised many schemes sponsored by UNESCO, CEE and similar organisations sponsoring environmental education for excluding subjective associations of pupils with developing long-lasting relationship with the natural environment, i.e. the emotional reaction, is in many cases unwelcome. There is no reference to developing a deeper consciousness of an affinity for the environment. The aims of these schemes are based on a dominant reductionist model. They fail to include the quality of individuals perceptual abilities to absorb such experiences and the motivation needed to encourage a child to seek such contact in the first place.

Yet, the present **research finds the objectification of sustainability goals under such a set of points to be inappropriate and misleading**. In a previous unpublished study [undertaken by the researcher] concerning education and sustainable development in Egypt, it was found that many sustainability criteria are nominally existing, but are void of any real content or solid developmental core. The outcomes are unsatisfactory, despite their adherence to the basic criteria. This is seen as a result of the above discussed objectification, i.e. a set of objectified rules acting as isolated islands rather than a holistically integrated understanding of development.

WGNSEE (1991) states, in discussing the principles of environmental education, "Education for **international understanding** and cultural education should become part of environmental education". This is in accordance with sustainability's famous banner, which claims: "think globally, act locally", in an attempt to tackle globalisation trends which fail to understand and fulfil development at local levels. Thinking globally might

[17] The OSG definition to environment is the most complying with the current research context. It states that environment is "the totality of external conditions and concrete or abstract items, which affect the behaviour of a system." (OSG, 1981: p.17).

not allow appropriate understanding of **local domains**. In regard to this Brohman (1996: p.315) quotes:

> *"Much of the knowledge people outside the mainstream of science possess, especially among traditional Third World societies, is* ***encoded in customs, rituals, values and beliefs linked to the cultural practices of everyday life.*** *Understanding this cultural realm is crucial to comprehending the ways that different people use environmental knowledge, with obvious implications for sustainable development.* [How would it be possible for someone who has not **lived** the experience to achieve such understanding?] *Becoming aware of local people's environmental knowledge is important to permit sustainable development initiatives, not only to devise more appropriate means of avoiding environmentally destructive practices, but also to make better use of vast local expertise. It should be acknowledged that, especially in rural areas,* ***local people are often 'experts' about their environments*** *and that any attempt to foster sustainable development without their active participation in unlikely to succeed."* [Author's emphases]

Thus, implementing those principles [like bio-diversity, participation ... etc.] through **very local traditions** should achieve better results, these being inherited codes that everyone does instinctively without thinking, rather than being a set of objectified points or imposed instructions [as discussed in '3.12 Endogenous Development' below]. Similarly, Redclift and Sage (1994) argue that culture and cultural diversity should act as the prism through which we view nature, rather than being a clause or a point in the Agenda.

3.12 Endogenous Development

Webster's dictionary explains the term 'endogenous' as "originating or produced from within". Though, it is originally a botanical analogy that refers to 'endogen', which We (1994) defines as a plant that increases by the irregular growth of new vascular and cellular tissue among the tissues already formed, yet it means to originate from or to grow within a pre-existent body.

The same source adds, this metaphor views a society as a giant organism within which innovations develop randomly, not following a pre-planned manner. The current research agrees with Islami's understanding of endogenous development (1998) necessitating regularity and planning to achieve stability. All in all, the term endogenous principally refers to **growth from within.**

In this regard, We (1994: p. 9) quotes:

> *"Endogenous growth theory is a 'bootstrap' method – a way for countries to pull themselves into the information economy using their available resources,*

and not allowing themselves to be exploited by multinational corporations, as globalisation is doing"

3.12.1 Endogenous Models ... Why?

In the Regional Symposium on Co-operative Peace in Southeast Asia organised by UNESCO and ASEAN in Jakarta – Indonesia 1998, Fredrico Mayor[18] cited:

> *"It is very clear that* ***we cannot be guided by the market. We cannot be guided by interests****. Unfortunately, at the world-wide level, we see many asymmetries. There is the gender gap, the wealth gap, and the knowledge gap.* ***The keyword is 'endogenous development'****: Development which allows you to master your own processes and your own destiny ... Development which responds to local needs and corresponds to the realities of the local context. Development which cannot be wiped out by speculators."* [Author's emphasis]

The adoption of exogenous paradigms is seen as inappropriate. There is no point of telling people not to do what they know instinctively and inherently, and to follow policies based on things other people coming from dissimilar backgrounds and different environments know and do.

In terms of economic growth, endogenous theory suggests the consequences of export-driven development is a negative effect on all parts of the economy, where eventually all countries end up at the same level (We, 1994). In this regard, one can interpret the recent economic damage taking place in Southeast Asian countries as falling under the same umbrella [i.e. lacking an endogenous developmental model where conflicting interests allowed the inflow and domination of foreign capital, eventually causing a huge collapse], as one can see the vulnerability of the Japanese export-based economy. A similar situation was witnessed with the tourism-based economic experience in Egypt, and its collapse following terrorist attacks on foreign tourists. This should not be understood as an argument against exports, foreign investment or tourism; it is only a reminder of the danger of being solely reliant on either.

The endogenous theory discusses how countries can work within the process of globalisation, to find complementary activities to help them survive and reform their relationships with multi-national corporations within their political and economic [as well as cultural] boundaries. Yet, newly industrialised countries can develop without being fully trade-dependent, especially with traditional perspectives depicting trade as a

[18] Director-General of UNESCO by then, and former Spanish Minister of Education and Science.

major means for growth and development. Endogenous theory alternatively focuses on education, training human resources, and developing new technologies for the world market without such dependency (We, 1994).

Having agreed that growth should be seen as a step towards development, as discussed earlier in this chapter [see 3.3 above], the present research now seeks a way of deriving an approach to endogenous development starting from the theory of endogenous growth.

Muehlinghaus et al. (1999) depict endogenous development as "a development strategy, based on regional necessities, locally available resources and activation of **indigenous** potentials. An essential element of this strategy is the broad **participation** of the local population in the initiating, planning, implementing and monitoring of the process of development". Endogenous development is suggested to be a progress through which concern is given to **indigenous knowledge**, and **internal potential powers of people** (Islami, 1998). Thus, the two basic pillars of such development are first, indigenous resources and knowledge; and second, public participation, which is rather seen to be 'sharing' than 'participation', as discussed below. The following study addresses theses two factors.

It must be clear that the current state of affairs differs from that of earlier societies. The key point is that **development is not a matter of earning but rather of learning**. Development programmes should give people an opportunity to learn by practice and develop themselves from within. **Endogenous development is a rational, psychological, social and scientific concept.**

3.12.2 Indigenous Resources and Knowledge

> *"It is not important to preserve our traditions, it is important to allow our traditions to preserve us"* (Hampton, 1995: p. 22).

In recent times, 'Indigenous Knowledge Systems - IKS' as **a prime part of culture** have come to play an important role in the international debate on cultural policy and development planning. In the 1970's UNESCO propagated the concepts of cultural identity which were a striking feature of contemporary history in the developing world. Global discussions on the relationship between economic, social and cultural

development have gradually emphasised the rediscovery of the concept of culture, going beyond arts and literature to encompass a whole complex of distinctive material, non-material and emotional characteristics of a society or a group based on a system of knowledge, technology, values, traditions and belief. The cultural dimension of development has now become a key concept for the international development strategy for the concluding part of the twentieth century as deeply acknowledged by many international organisations (Waren et al., 1995).

The reason we need to investigate culture and culture-related issues, as in the case of this research, was well put by Roy D'Andrade. He states: "if one is interested in society, culture needs to be investigated because the way society works is deeply affected by what is learned as cultural heritage ... one cannot understand individual humans without understanding their culture" (D'Andrade, 1995: p. 251).

Islami (1998: p. 205) uses the following quotations to familiarise the reader with the notion of culture. Culture is "the total of the inherited ideas, beliefs, values and knowledge which constitute the shared basis of social action" (Webster Dictionary). "Culture is the expression of Man kind in society" (Aysan & Oliver, 1987). Barakat, (1993) suggests that human culture is what makes man different from other species: the refinement of his mind and his activities. He adds, "culture in the wide sense, is the complex whole which includes knowledge, belief, art, morals, law, symbol, custom and any other capabilities or habits acquired by Man as a member of society".
Rapoport (1983) explains that culture is the lifestyle of a typical group; culture is a system of symbols, meanings and cognitive schemata transmitted through symbolic codes; it is a set of adaptive strategies for survival related to ecology and available natural resources. Designed environments of particular cultures are settings for the kind of people which a particular group sees as normative; it is the particular lifestyle that is significant, typical and distinguishes one group from another.
In brief, culture is a system of knowledge. Culture is not material phenomenon; it does not consist of things, behaviours or emotions. It is rather an organisation of these (Goodenough, 1957). Although each culture is unique because it has its own history, this does not mean that certain values are not held by many cultures, but that each culture is a result of the past efforts of people to deal with its physical and social environment.

However, this is not to be understood as a call for isolation, or dissociation from other cultures. It is still valid that enabling people to exchange experiences and learn about other cultures and how their culture relates to them is a positive value, but the emphasis here is that learning from or about others does not mean undertaking or following their models. More about this is discussed under '3.12.2.4 IK Openness and Evolution'.

3.12.2.1 What is IK?

Local values, experiences, activities, techniques and even materials are generally referred to as indigenous resources and knowledge, which is the suggested base for launching endogenous development. With reference to this context, Wahab (1997: p. 44-45) cites from Warren and Rajasekaran (1993) identifying 'Indigenous Knowledge - IK' as:

> *"The systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments, and intimate understanding of the environment in a given culture. IK is a local knowledge that is unique to a given culture or society. It is the information base for a society which facilitates communication and decision-making. IKS form the basis for decision-making, which is operationalised through* ***indigenous organisations****, and they provide the foundation for local innovations and experimentation."*

It is noteworthy that indigenous knowledge should not be seen against organisation. Kinship loyalties for example, make for strong local ties, which can form a base for launching sophisticated forms of organisations and institutions, that are to make the local voice heard at the national level. Even though the need for new institutions is often urgent, **organisation building should be avoided as an end in itself**. It must respond to people's aspirations and build on existing social structures (Beaclerk et al., 1988).

Titilola (1990) adds, indigenous knowledge serves as a springboard to technological development, dynamic rather than static, holistic and culturally bound, oral, experiential, and highly accessible although not documented. The following discussions illustrate these characteristics.

Beaclerk et al. (1988) suggest that cultural adjustment is the characteristic that enables indigenous societies to develop viable and satisfying socio-economic systems. It is also what helps them survive in front of any external disruptive interventions which may be imposed by centralised authorities.

The significance of IK to the study is that it emerges from cultural contexts, evolves in close contact with local environmental conditions, and is based on traditional societies' intimate knowledge of their own environments (Zwahlen, 1996).

> *"The strength of tradition is that design is firmly grounded in a relationship to society rather than being presented as an area of study which feeds only on itself"* (Whiteley, 1993: p. vii).

Modern proponents of Aristotle and Plato's traditional community see the way towards promoting social harmony and individual meaningful life to come through maintaining traditional values, beliefs, roles and responsibilities. Shared conception of 'the good', and individuals' association in common understanding are believed to develop a coherent set of moral principles and ethical goals, which would resolve any disputes (MacIntyre, 1981).

3.12.2.2 Problems Facing IK

Wiarda (1983) outlined some problems facing indigenous-based development, out of which one can draw the reasons behind the common belief of its programs being seen to many as more romantic and nostalgic than realistic. First, the variation of people's race and religion [within the same region] makes achieving a consensus development program [whether indigenous or imported] a hard task. Similar difficulties relate to the current international political and economic situations, which do not allow the isolation of a country. Thus outside forces have influences in shaping and distorting the indigenous models of development.

In his contribution to the causes of failure of some traditional systems, Zwahlen (1996) observed that sometimes it is a **change in the institutional setting** that leads to situations where traditional methods and practices become no longer applicable. For instance, when the State took over the ownership of tanks [small reservoirs] for harvesting fish from local communities in Sri Lanka, the traditional community-based management structures were no longer effective for organising either fishing itself or the vital maintenance and repair of tanks.

It is suggested that the problem is with the **centralised organisation**, which imposes a global uniform perception of different places and people [even at the single country scale], rather than setting a policy that recognises diversity. Many indigenous societies resolve their problems through their traditional values and organisations, which guide all activities and behaviours. In other words, the problem is that the majority of plans

and strategies are governed by the budgets of central governments and their policy. The experts use their knowledge and organisations, which are not indigenous. This results in an outcome that does not fully comply with people's needs (Islami, 1998).
Yet, it is suggested that the formal responses of governments and organisations should respond to and emerge from these local settings. In any society, if change starts with an inner dynamic, the whole modifies itself in all its aspects and becomes a new structure. But if two very different structures crash with each other, and **if change begins as a result of external dynamics**, then it is unlikely to be successful (Kiray, 1983).

Another common problem in many developing countries is designs produced by **foreign designers** and professionals who lack cultural and social consciousness. Although these designs may seem logical and orderly from an outsider's viewpoint, but are more often culturally irrelevant, environmentally inappropriate, and more expensive to build and maintain (Zulficar, 1983). The danger is that designers at their offices abroad will lack crucial knowledge about the culture of that country. Even if they visit the country for a period, there is still a danger that they cannot become involved long enough or deeply enough to fully understand local customs and needs.

Papanek (1984) suggests that foreign designers should move to the country and be part of its society in order to 'train designers to train designers'. In other words, they would become part of a 'seed project' for designers from the indigenous population of the country. After a number of years, they would be able to create a group of designers firmly committed to their own cultural heritage, life-style and needs.

A field survey in Sana'a - Yemen revealed that people love to see old materials of construction used in buildings. Thus, it is not only the scale of architecture, but the building materials as well that are important in preserving traditional ways of building. In many countries, there still is a living tradition of good craftsmanship in hereditary craftsmen. They have retained not only the technical skills and knowledge of their materials and methods but also the vocabulary, syntax and grammar of traditional designs. Many of these skilled craftsmen in building sites are not fully active, being assigned to produce absurd imitations of the machine aesthetic and high-tech precision with totally incompatible processes, tools, material or organisational framework. In this process we have had to put up with lower standards of workmanship. Thus, at both

ends, design and construction, the quality of our built environment has declined (Mumtaz, 1985).

Zulficar (1983) concludes that progress and modernity can be achieved by means other than the passive adoption of concepts that are copied from foreign models. Incentives need to be developed and vigorous steps should be taken to improve the quality and increase the quantity of indigenous building materials available to private builders [whose houses outnumber those of the government] to preserve traditions (Kulkarni, 1983).

3.12.2.3 IK Successes

Warren (1996) argues that IKS's are not inferior to global systems, they are just sometimes unavailable to some researchers because they were undocumented. Wahab (1997) adds that rural communities in many parts of the world have been known for their indigenous and self-reliant strategies in food production, provision of functionally efficient and appropriate shelter, efficient planning and management of settlements, alleviation of ill-health, and protection of the forests and its fragile ecosystem.

The economics of all indigenous peoples are closely adapted to their natural resources of which they reveal high degree of knowledge based on observation and long practice. A particular feature of the technologies developed by indigenous peoples for subsistence is their emphasis on the sustainable use of their resources. Indigenous peoples practising traditional subsistence are close to ecological balance with their surroundings. This balance does not mean that indigenous peoples do not exploit and manage the environment, but there is stability underlying this management in most cases (Beaclerk et al., 1988).

Indigenous knowledge is highly relevant to all human activities as it promotes the full and active participation of local people in all consequences of their affairs. IK is capable of being integrated into modern sciences. It is resource conserving, environment-friendly, and a readily available tool for the attainment of self-reliance and sustainability. **Local knowledge is also tested, accepted and found easily adaptable** to its own people. IK can help people to learn how to live in harmony with nature. Indigenous knowledge has a very wide scope covering the whole spectrum of the physical, natural, social, cultural and political environments. It is universally

encompassing and covers the full range of disciplines and issues[19]. Indigenous knowledge appears to be timeless and capable of being adopted at any period of time, with appropriate modifications, to solve varying problems, in any given society (Wahab, 1997).

In regard to indigenous housing, the gradual evolution of the **black house in Scotland** to a point of great environmental refinement in the form of 19th century Scottish croft is a case in point. In particular the initial perception of 'fire' as the core of the black house evolved over time into the perception of the gable end with chimney as an element of the vernacular Scottish croft which was 'alive' with the fireplace within it. This perception became overlaid with other developments: the use of mechanised fire or 'range' replaced the hearth in the gable, which in turn had replaced the open fire in the centre of the house. With each transformation, however, the original perception remained intact; the understanding of the fire as a living and sacred entity which brought the house to life. Here, any scientific development remained firmly connected to the original cosmological perception (Ujam & Stevenson, 1996).

In relation to the Gourna village he designed to accommodate nine hundred families in South Egypt, Hassan Fathy who is known for his strong support to indigenous techniques and forms quotes:

> *"It is important to understand that this search for local forms and their incorporation in the new village was not prompted by sentimental desire to keep some souvenir of the old village. My purpose was always to* ***restore*** *the Gournis their heritage of vigorous* ***locally-inspired building tradition****, involving* ***the active co-operation*** *of informed clients and skilled craftsmen"* (Fathy, 1973: p. 43)

The World Health Organisation confirms that 80% of the world population depends on traditional medicine and herbal remedies (Inglis, 1994). WHO also supports the inclusion of traditional medical practitioners with their indigenous knowledge in health care delivery systems of many developing nations, having proved efficiency and success (WHO, 1976).

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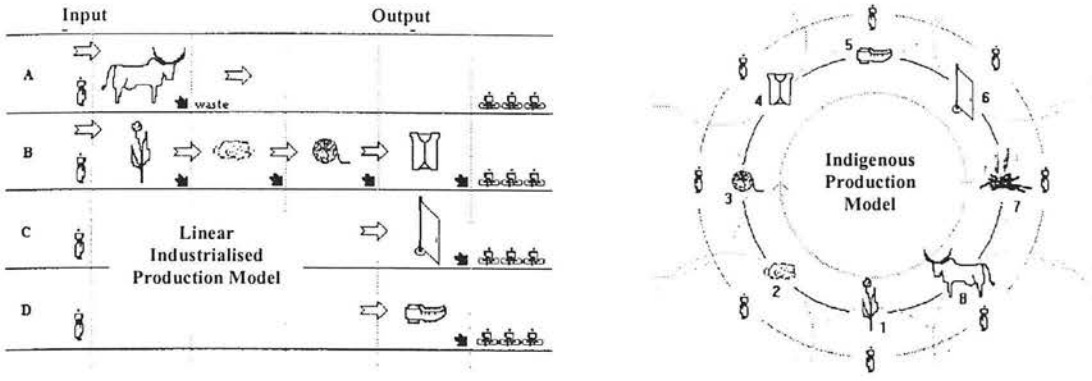
[19] IK features prominently in almost all areas of human endeavours including, for example, agriculture, settlement planning, architecture, trade and commerce, savings and credit, transportation, health and diseases, education and training, natural resources, politics, public administration and law, gender analysis, facilitating participatory approaches to development, soil and water management, vegetation, climate, crop-pests, veterinary, farming and livestock systems, land uses, forestry, anthropology, geography, sociology, linguistics, botany, fisheries, natural resources management, socio-economic and physical development (Wahab, 1996).

A study in Nigeria of indigenous grain storage methods found the local approaches to be superior to imported storage containers except when very large amounts of grain were involved (Phillips, 1989).



A. The clothes (4) are usually sewn with thread (3) which is made of cotton (2) and, in turn, cotton is picked off the plant (1).
B. The villagers make summer shoes (5) from used clothes, and these used shoes are set under the wooden bolts of the doors (6) to secure and support them later.
C. When they are no longer useful, they are burnt (7) to make smoke to cure the sinusitis of cows (8) whose horns and the other wastes are used to fertilise the cotton plants.
The model shows that indigenous people, to satisfy their needs in response to their environment, use several techniques to process natural commodities. This example shows the remarkable characteristics of resource use and reuse. The illustrated process is based on the indigenous process of production, characterised by cyclical relationship between different and natural and artificial products, which dispose no waste in the environment.

Figure (3-6) Comparison between linear and indigenous techniques of production (Islami, 1998).

The above figure (3-6) shows a comparison between two examples of a linear industrialised model and indigenous techniques of production in Iran – [which shares many characteristics with rural Egypt], to show how the latter is more economic, supportive and protective to the environment. What should be noted is that each product requires human intervention by the producer responsible for controlling the process. This control brings knowledge and experience relevant to the adaptation to the process of life. Consequently, not only is the production process a part of the life process, but it is also a cultural generator for societies.

3.12.2.4 IK, A Holistic Concept

To understand the environment appropriately, cosmological[20] beliefs should be bound up with scientific analyses, and should not be considered as a separate issue. Cosmology presupposes a shared value system with an ethical basis located within a given culture and arising out of a given 'place' context (Rapoport in Olivier, 1975). Thus, a meaningful contribution to human knowledge is made only when these **subjective cultural aspects** are considered directly in relation to any **objective scientific inquiry**.

It can only be the synthesis of creative tension between these two formulations and the resulting integrated solution for any particular culture and place. If one is considered without the other we end up either with subjective superstition or objective inhumanity (Ujam & Stevenson, 1996).

Cultural values are seen to arise out of the interaction between transformational concepts and the environment. These concepts give rise to meaning placed on an environmental phenomenon. This meaning is also coincidental with the value placed on that phenomenon. An example of this is the Aboriginal Dreamtime, which gives **'life'** to things reductionist thought traditionally sees as 'dead' materials; e.g. **stones, sand, wood** are thought of as living beings. The **concept of 'tree'** for example, had developed richly over time as both cosmological living entity, unseparated from humans, and as the basis of a craft tradition which showed an embedded respect for the use of the resource as a 'living' material. Similarly, the re-use aspect of the dismountable peg joints and wedging in the framework of half-timber housing in England, was inseparable from the meaning of 'tree', rather than a merely objective but abstract application of the idea of 'conservation of resources'. It is evident though, that **indigenous cultures have usually helped people to place each development project and program into an appropriate holistic model by their intuition, wisdom and world-views** (ibid.).

3.12.2.5 IK Openness and Evolution

It is important to state that an outside view of a society's development may be different from an assessment made by the society itself. The development of a society is judged by the values it holds, which transform over time. The enrichment of core values is not the aim of indigenous models, but a natural outcome of a **healthy 'knowing and doing'** society. Indigenous knowledge is about how these **values evolve** in a society to sustain its environment and empower its development (Islami, 1998). **Technology should not be a criterion to assess cultures, it should rather be seen as means that is utilised differently by different cultures** (Serageldin, 1983a). What determines technology's realistic application is its cultural context. Cultural aspects are perceived through goals, values, ethical codes and belief in progress, awareness and creativity (Alhasani, 1996).

Ingham (1993) suggests that historical awareness of development is important, but this would be misleading if understood as replicating experiences of the past or of other

[20] Cosmology here is defined as the world-view through which a group of people collectively interpret the

countries. Wiarda (1983) confirms the same meaning, on the basis that the international settings are now different from those of the time when industrialised countries 'developed', which makes replication inappropriate. Underdeveloped or developing countries need to develop on their own, to invest their **traditional concepts with new meanings**, but not to accept the standard of industrialised countries as a doctrine of development. They should pioneer their own way of development. **They could draw on the experiences of other countries, but modify those models to suit their own indigenous conditions**. This should apply to the fields of education, economy, production, consumption, lifestyle, mass media ... etc. In other words, one can say that countries should look into their past and present to be able to successfully develop their future (Islami, 1998).

The assumption that local knowledge is old and static is inaccurate too. Dewey (1966) emphasises the significance of addressing the mechanism by which the community can change and develop when exposed to new knowledge and cultures. Thus, he praises continual consideration of open critique to community goals and sentiments, with regard to any expected shifts. This applies to indigenous groups who proved to be constantly experimenting and changing even their technology in response to the imperative exogenous factors of the marketplace**. Local peoples continually test and evaluate new production and management techniques** [e.g. farmers, fishermen ... etc.], **adding those found beneficial and discarding ones that are no longer useful to their context** (NRC, 1989).

The assertion of an identity, which finds its inspiration in the cultural past and in the ecological reality should not be viewed as a romantic attachment to a vanishing past. Rather it should be regarded as a necessary phase in the process of development, which **uses the past as a source of inspiration** for the use of appropriate techniques (Zulficar, 1983).

In the Third World, we observe peasants using modern technology, televisions, water pumps ... etc in their daily life. Yet, they retain much of what we usually consider under 'traditionalism'. It is therefore more accurate to view **'tradition' and 'modernity' not as dichotomies but as a continuum**. Local people are unbundling both packages of the so-called 'tradition' and 'modernity' and taking from each what suits them best. They are **evolving their own synthesis**. We ought to allow them do such synthesis in the context

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phenomena surrounding them.

of independent development with a minimum of alienation. This is obtained when people are real participants, not spectators or victims of superimposed outside perspectives (Ibrahim, 1983).

IK has a unique ability to interact with different cultures, borrow from them what suits and discard that which does not. It is not about isolation, but rather filtering what comes from elsewhere. In this regard Abu-Lughud (1995) states:

> *"There has seldom, if ever, been anything identifiable as purely traditional architecture in the sense of a totally indigenous form constructed by an absolutely isolated group of builders ... through history architectural forms have migrated - either along with the migration of people ... or with the reports of travellers who carried goods and ideas from one place to another ... in the process of transmission, changes have been integrated with existent forms, thus 'becoming' the transformed 'tradition' "*

Charbonneau (1993: p.2) suggests that **exchanges between indigenous peoples and other knowledge systems can be mutually beneficial**. Virtually every scientific and social discipline can find valuable insights in the centuries-old knowledge base of indigenous peoples. Similarly, indigenous peoples are more than ready to discover what is useful in other cultures and apply it to their own needs. The two-way flow of knowledge can only strengthen our mutual capacities to get closer to sustainable and equitable development.

Indigenous information systems are dynamic, and are continually influenced by internal creativity and experimentation as well as by contact with external systems (Flavier et al., 1995). Tradition is always young, fresh and new. It is about continuity that is based on experience (Steil, 1987).

Thus, we have to **maintain our links with historic heritage**, yet not deny ourselves those **contributions which modern technology** can make to improving the quality of people's lives. Rapid development should not sweep away the originality of our culture. Technology should not be seen in purely negative terms, but should be used positively to the benefit of societies. As urbanisation and change come to the developing world, people themselves should open the 'package of technology' and take what they need while rejecting that which they does not apply to their conditions (Haidari, 1983).

3.12.2.6 IK Limitations

The richness of IKS as a resource to solve bio-diversity and habitation problems should not mean that we ignore its limitations. Several views of comparative strengths and

weaknesses of IKS have been expressed by scholars, development practitioners, and local persons in the recent years. "We should not conserve traditional knowledge simply so that traditional knowledge will always be applied. Instead, we should document these methods so as to build a broader basis from which we can choose - so that we can assess all the knowledge available from every source and then pick what is best suited to the case at hand. Most often the best choice will be a combination of traditional and new methods - a combination that is specific to a particular site, culture and project" (Zwahlen, 1996: p. 20). This is described as "cumulative and dynamic, building upon the experience of earlier generations and adapting to new technological and socio-economic changes of the present" (Johnson, 1993: p. 12).

3.12.3 Participation and Sharing

An active role for people in the process of development is a paramount and it is rare to find any recent document on development strategy or approaches which does not refer to participation. Carapico (1985: p. 203) states:

> *"Virtually all contemporary development strategies stress the importance of participation by working people in both policy formation and the benefits of economic growth"*

Some commentators like Gittle (1980) suggest that the idea of participation is rooted in the 1960's. Others like Claude et al. (1985) argue that it was brought into focus in the 1930's. There is evidence that it has been strongly rooted in Islamic ideology as one of its principal doctrines [namely *'shura'*] more than fourteen hundred years ago. Surat *Aal-Emran* verse 159 states:

> *".... And consult them in the affairs. Then when you have taken a decision, put your trust in Allah, certainly, Allah loves those who put their trust in Him"* (Holy Qur'an 3:159*)*

This confirms that consultation should take place prior to decision-making.

UNRISD[21] defines participation as "organised efforts to increase control over resources and institutions for groups hitherto excluded from such control" (Ingham, 1993: p. 1810). Where to Selman (1996) it denotes "further public involvement to increase the legitimacy of planning process and produce better informed decisions". "Participation indicates the willingness and ability of the masses of the people to work together for the collective benefit and that many of their needs were served in this way" (UN, 1975: p. 32)

White (1981: p. 6) emphasised the role of people sharing in decision-making and ensuring their meaningful presence at all stages. He states: "Participation has three dimensions: involvement of all those affected in decision-making about what should be done and how; mass contribution to the development efforts, i.e. to the implementation of decisions; and sharing in the benefits of the programmes". The World Bank report of 1987 adds to these stages of participation with 'suggestion' and 'evaluating and modifying programs'.

Webster's dictionary interprets **'participate'** as **'to take part';** where **'share'** is **'to partake, use experience and enjoy with others'.** Clearly the latter involves more levels of participation, including the experience and enjoying the outcome. Hence, as far as this thesis is concerned, 'sharing' is found more holistic and supportive to the meanings of endogenous development.

However, Arnstein's model (1971) for levels of participation is one of the most comprehensive. It suggests eight levels of participation, divided into three groups, as follows:

a. Non-participation

1. Manipulation; when people are guided and used as tools by power holders.

2. Therapy; when people's role is merely confined to receiving prescribed remedies.

b. Degrees of tokenism

3. Informing; gathering people to be told about their rights and responsibilities.

4. Consultation; inviting people to air their views about a matter.

5. Placation; where citizens have actual and legitimate presence in decision-making, but the final decisions is by other authorities.

c. Degrees of citizen power

6. Partnership; redistribution of power through negotiations between citizens and power holders through such structures as joint policy boards and planning committees.

7. Delegated power; citizens achieving dominant decision-making authority over a particular plan or programme.

8. Citizens' control; the highest degree of participation and control on a matter.

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[21] United Nations Research Institute for Social Development – Geneva, Switzerland

3.12.3.1 The Need for 'Sharing'

"It is common place that the growth strategies undertaken by many governments in the Third World Countries have frequently failed to secure significant amelioration of mass poverty or a radical redistribution of income. It is this criticism which has led to an alternative view that the involvement of the community in the project can compensate for these deficiencies." (Moser, 1983: p. 3)

With reference to the UK experience, Boothroyd et al. (1994) argue that large scale community involvement lies a long way short of actual community empowerment, the benefit of which is seen to stem from the locality's ability to address issues that are genuinely relevant to their own lives. Although, there are limited records of instances where this was applied, most were post-disaster cases. The UNEP report of 1999 confirms public involvement, voluntary action and NGO participation to be strengthened in almost all countries [including Egypt], although still at relatively low levels.

People commonly greatly depend on **professionals** in their daily life. Commentators argue that participation by its nature opposes such professionalism. Although this is true to some extent, it should be noted that the society needs different activities and specialities. Thus, there emerges the need for a new interpretation. People are neither against professionals, nor 'participation' is against them. The difference between participation and such mutual dependence is similar to that between 'knowledge' and 'science'. Knowledge used for including a whole, where science is for deducting parts. **Participation** thus occurs in different levels and scales and **covers both** areas (Islami, 1998).

It is obvious that economic individualism cannot work. What is less obvious, perhaps, is that individual liberalisation is producing disintegration. There is no longer any **embracing view of life**, no cultural unity in which the parts find their place and meaning. Instead, individualistic culture presents a number of separate fields of thought and action, each acts unto itself with its own norms. In the absence of real sharing, Jeffreys derives an example from the English experience of Industrial Revolution, and argues that it destroyed the 'old social relationships' that were based on neighbourhood and substituted new social divisions based on economic function. This image is different from what used to take place in the sixteenth to eighteenth centuries, when

people [including the aristocratic minority] shared common national and religious events, dancing, singing and playing games, being all bound together in the life of local community (Jeffreys, 1972).

When a society has neither a unified view of life in which its members' knowledge and ideas all find their place, nor a live cultural tradition in which all sections of the community share, it follows that such a society would have no adequate cultural interpretation of its contemporary world. Such culture is too incoherent and fragmentary to give its people the spiritual or even the intellectual mastery of their situations. Jeffreys adds that industrialisation has destroyed the mixed local community, splitting people into different strata, e.g. slums, suburbs, municipal housing ... etc. with no common practice of culture (ibid.).

DOE (1994) asserts the significance of public participation in decision-making, that consultation usually **reveals the conflicts between different interest groups**. More privileges for community participation are in the following quotation:

> *"With participation, more will be accomplished; with participation, services can be provided more cheaply; participation has an instinctive value for participants; participation is a catalyst for further development; participation encourages a sense of responsibility; participation guarantees that a felt need is involved; participation ensures things are done the right way; participation uses valuable indigenous knowledge; participation frees people from dependence on others' skills, and participation makes people more conscious of the causes of their poverty and what they can do about it."* (White, 1981: p. 11)

Thus, **by working together, people learn from each other**. The designer, for example, learns from the builder the process of his crafts and the potential limitations of his materials, and the craftsman learns from the architect the relationship of his work to the larger scheme and concept. Through such a process much can be learnt from the numerous hereditary craftsmen, the last repositories of grand traditions of building in the local region (Mumtaz, 1985).

Assuming that design is not the end, but is a means to satisfy the ultimate desire and the real needs of society, the main goal of participation in the construction of the built environment is, therefore, to help them to **evolve and develop their culture by increasing their experiences** (Islami, 1996). If people are involved in the design and development process they will be more satisfied with the results, and will take better care of the environment (Woolley, 1986 in: Scott & Jenks 1986).

3.12.3.2 Indigenous Dimension in Participation and Control

Participation should enable the use of cultural resources, values, symbolic principles and people's indigenous knowledge to help societies' transformation and development. This should not deny the benefit of using science, technology and experts, besides those notions addressed above, in order to solve development problems.

Participation should not be limited to a specific discipline [e.g. politics] with a particular objective [e.g. decentralisation of power]. Because of the social ties of indigenous communities in the developing and underdeveloped countries, people usually have equal opportunity and high accessibility to all aspects of their lives. They have to have a strong role in the decision-making process before decisions are taken [by suggesting], while the decision is in process [controlling], and after the decision is made [by either rejecting or accepting] (Islami, 1998).

Within the indigenous economy there is often little opportunity for the individual accumulation of wealth; people tend to maintain social cohesion by encouraging **generosity**. Indeed there are frequently social mechanisms that govern the redistribution of wealth within the group. Generosity may be an adaptation to sporadic supply, or may be an independent ethos, but equitable sharing is a common outcome (Beaclerk et al., 1988).

Rituals play an important role in social relations, and the cohesion of peoples within indigenous societies is often maintained by a web of **kinship** that can spread out of a nuclear family to include all members of the group. The strength of indigenous groups ultimately rests on kinship bonds and the way these groups conduct their political, economic and religious affairs. Kinship structures provide individuals with security and give them **an established role within the group as a whole**. A common language, culture and system of religious beliefs reinforce identification of the individual within the group (ibid.).

Participation in endogenous development is crucial. It should not remain limited to certain strata or particular specialities. It must emerge **from the people at grassroots level**. Initiators of this sort of participation should give-up their ideas of decision-making responsibility being theirs, as applicable to a top-down paradigm. It should be the other way around; people may sometimes allow professionals to help according to

their own wills (Islami, 1998). The Holy Qur'an confirms this meaning, and favours change from within:

> *"Allah does not change a people's lot unless they change what is in their hearts"* (Holy Qur'an, 13:11)

Thus, development cannot be grafted on to a country like a foreign body, it must grow within the country at grass-roots level. The real executives of development should be the people themselves [bottom-up development], because they are either its producers or users, and are aware of their own needs and problems. Thus, the techniques and strategies of development should be **simple enough for people to afford**, understand and benefit from (Fadaka, 1982).

It is very common that the 'individual' and 'society' are addressed as two separate conflicting bodies. Individuals are neither separate nor self-sufficient. Dewey (1922) rejects the liberal theorists who emphasise the importance of freeing individuals to identify their own conception of 'the good'. He argues that **social values are actually what shapes and permits the applicability of individual preferences**. He adds that absolute freeing of individuals does not necessarily mean growth in desirable directions but might involve destructive set backs to the whole community.
Society is neither a mere sum of individuals nor is it a super-ego, but it is a complex of relationships of a kind to which the term 'personal' is appropriate, indicating both the rational and moral nature of the association and the fact that full human life is possible only in community. **A human being can not come to his full personal stature in isolation**. Higher level human activities like moral conduct are meaningless apart from relations with other persons. The recognition of a relationship as one between individuals is the foundation of morality (Jeffreys, 1972).

In this regard, Ghomashchi (1998) cites from Healey (1997, p. 56-57) that the social world is not constituted of autonomous individuals, each employing their own preferences in order to obtain material satisfaction. Instead, it is built on individual identities, as social constructs. She emphasises that **attitudes and values are formed through social relations** with others. She writes: "We are shaped by our social situation but we actively shape it too". Children are trained from their early years to perceive their existence and identify themselves as a part of the greater whole, i.e. dissolving in the community to unite individual and community goals, and dispose of any arising

vices within. This transformation from individual to communitarian concerns is named 'transformative education' (Kahne, 1996). Islami (1998) suggests that **development is a reflection of personal values that are conditioned by the social framework in which one lives**.

3.12.3.3 'Sharing' in Action

The endogenous development model is not limited to one certain scale, it can be located in international, national and local contexts to satisfy peoples ideological, juridical, political, cultural, and theoretical needs.

MacIntyre (1991) proposes the implementation at the level of institutions [e.g. schools, farms, workplaces, clinics ... etc.], where groups are more likely to share common concepts of 'the good'.

Islami (1998) also suggests a view of small, self-governing units, these units should be the source of governmental authority and responsibility, and they should determine the use and allocation of resources. Actions that may affect another unit require its approval. Disagreements that cannot be resolved at the level of these autonomous units are to be settled by the most local governmental unit. Local program [such as education, health, transport, etc.] can be transformed into the regional plans [such as economic affairs, interior affairs, etc.] and the regional plans can be transformed into the national strategies [such as constitution, foreign affairs, etc].

3.12.4 Endogenous Applications

The endogenous model should not be seen as a theoretical utopia. Many recent economic studies recommend the endogenous model, and find it a viable alternative confirmed through the use of highly sophisticated numerical calculations and equations, which establish the benefits of adopting such model[22]. However, this is not to suggest we should be solely led by such numeration or objectification in favour of a holistic understanding of the core concept of endogenous development.

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[22] e.g. (Fang, 2000) @ University of Pennsylvania: *"Disentangling the college wage premium: estimating a model with **endogenous education choices**"*; (Kim & Lee, 1999) @ Harvard University: *"Technological change, investment in human capital, and economic growth"*; (Tong & Xu, 1999) @ London School of Economics: *"**Endogenous financial** institutions, R&D selection and growth"*; (Gomme, 2001) @ the Federal Reserve Bank of Cleveland: *"Optimal taxation in **an endogenous growth model** with government supplied educational capital"*; and (Albert & Hahnel, 1990): *"A quiet revolution in welfare economics"* – to name a few.

Another practical example is '*Compas*' – an international network to enhance endogenous development. It draws attention to the holistic nature of indigenous knowledge and cultural aspects of the management of natural resources. They are concerned about traditional cosmologies, indigenous knowledge, the way local communities carry out agricultural experiments and the impacts these have on biological and cultural diversity and land-use practices. In their view, traditional worldviews, knowledge, leadership and values are not to be romanticised nor rejected as old-fashioned, or obsolete. They are alternatively, taken as the starting point of testing and experimentation in forming the basis for an intercultural dialogue on knowledge and development, as well as in strengthening the dynamics of traditional knowledge systems. They see it as important that local partners test and adapt innovations from outside that are compatible with traditional values and concepts (Compas, 2001).

The Chinese rural development program is also an example that implies close cohesion to the endogenous model. Wu et al. (1981) outline its main features under the following points:

- Providing basic needs, essential commodities, medical care, **locally controlled education.**
- Reassigning individuals to their original homelands.
- Emphasising local control in resource use, production plans, infrastructure improvement and work distribution.
- Supporting and encouraging the rural sector financially [e.g. agriculture tax reduction, bonuses for over-production].
- Promoting industries that are complementary to the rural sector [e.g. fertiliser industries, and agriculture machinery manufacturing and repairs].
- Using local resources, manpower, and knowledge.

Islami (1998) outlines the appropriate conditions for environments to operate a model of endogenous development similar to the Chinese studied above under the following:

- Embracing local entrepreneurship and innovative capacity.
- Expanding local firms.
- Using local physical and human resources.
- Creating interdependencies among local firms.
- Maintaining local enterprises under local control.
- Promoting the vital role of local social regulation and solidarity.

Romer (1990) highlights two other important factors of endogenous development; first, financial policies and tax regulations should encourage people to invest their savings within the country rather than in external countries which could provide safer or more profitable settings. Second, is to deal consciously with multi-national firms in terms of employing local people and resources.

In another study about university education in Africa, Devish (2001) forwards his own view to 'endogenisation'. He applies this term to clearer integration of the university curriculum and scientific research in local cultures and forms of knowledge acquisition and practice, decision making and administration. He also claims that solutions should not be provided by the North, in spite of the demand for dialogue and partnership. Thus, in the short term, research bodies of the North could hereby act as a 'culture mediator' or 'culture broker'. This is a crucial role for local institutes, who should act as filters for the foreign ideologies and practices, before applying them to local domains.

3.13 Conclusion

The development of a person or a society is not defined by what or how much that person or society has. Development is more to do with **what it can do with whatever it has**. Given that one person or society cannot be motivated for another, **one person or society cannot develop another, it can only encourage and facilitate the development of another**. The only type of development is 'self development'. Therefore, governments cannot develop the governed, but they can encourage their development. Thus, their role should be mainly to facilitate solutions for the citizens to undertake.

The bottom-up approach alone is not an adequate solution, neither is the top-down. In the pursuit of development, this apparent conflict can be used to identify an appropriate level of intervention, with reference to both the potential for local contribution, and the need for global co-ordination.

Growth is to be interpreted as a means to promote development and wellbeing rather as an end on its own. The problem with modernisation is that it considers development to be virtually equivalent to economic growth. Social, cultural and religious values are sometimes largely ignored, being irrelevant or even representing obstacles to the

process of development. Consequently religious authority weakens and conduct partly break loose from any kind of moral control and from any partly discovered new obligation to the state. This makes people become more critical of unethical attitudes towards the community and more likely to judge private morality.

Modernisation is accompanied by other stresses involving conflicts in developing countries, which result in wars, civil unrest, ethnic violence, and political repression. There is also a strong association between modernisation and ecological problems, including the loss of tropical rainforests, desertification, and the high cost of energy consumption in modern technologies.

Modernist schools are concerned with imposing discipline and control. This faces children with the hazard of being moulded through education to be factory fodder, neutralising the potential for the development of creativity and freedom of expression. As such, the school was viewed as a kind of factory for the receipt of knowledge, the pupil is to enter the system at one end, follow a prescribed course, and emerge with a degree at the other. This view is negated because manufacturing is a means to an end, while development is an end in itself. On the other hand, there is no one point or stage of development at which one can say "the process is now complete; nothing remains to be done", there is no such hypothetical end product as in manufacturing.

The theory of dependency assumes the underdevelopment of a country to be the direct result of another's development, after exploiting its resources, i.e. development and underdevelopment are two interdependent phenomena. There is a danger that economic dependency becomes cultural, then educational. This becomes worse in school when the curricula, examples, exams and assessments are driven by imported settings, placing such cultural dependency at even earlier educational stages. This leads to dichotomisation of cultural perception, where the image of 'progress' is borrowed from elsewhere. This poses a challenge for designers, sociologists and philosophers to articulate a vision of the future which is culturally authentic and yet incorporates all of the progressive elements that societies in transition rightly aspire to.

Another version of dependency is the conditions and 'structural adjustment policies' imposed by donor counties and international aid bodies. These policies extend in many cases to the internal arrangements in the poorer countries. Writers and policy-makers within the WB officially acknowledge that structural adjustment policies have had negative social and cultural consequences.

Transitional state theory principally addressed countries experiencing transition from monarchy, colonialism, capitalism or other systems towards new socialist programs. Such socialist programs are associated with limited opportunity for public participation, particularly with leaders taking over in the absence of institutional legitimacy.
Under this model, education suppresses critical analysis and becomes more descriptive, so that the population would be less participative and less threatening to those in power. Thus education ends up as a functional tool for economic growth, rather than for a political foundation of social transformation and development.

The implications of the market place model appear in the domination of economic and materialistic values, reliance on foreign traditions, tendency towards internationalisation, weakening local identity and culture, reliance on alien imported models, growth of richer nations with further marginalisation and powerlessness of the poorer ones, and threatening the desires of self-reliance and independence.
As for the educational influences under this model, there is no overwhelming conclusion regarding the cost-effectiveness advantages of private schools over public ones, or for the inverse. School privatisation is an area that still needs further research, and the assessment of similar experiences is believed to be at too early a stage to measure. Such changes could take more time to show significant results. The fundamental determinant for a successful school is not whether it is public or private.

Sustainability is a very broad multidisciplinary notion, and almost any group can find their own interest somewhere within sustainable development. Therefore, it is hard to be against it in general. This makes it possible for competing groups to use it towards different or even contradictory ends, such as the conflict between 'individual versus collective interests', 'intergenerational versus intragenerational equity' and 'adaptability versus resistance'. In other words, it is accused of lacking a clear framework for co-ordinating the interaction between such huge heterogeneous attendant disciplines and interest groups [e.g. political, social, ecological, commercial ... etc]. This has resulted in many disagreements. For example population control is in contradiction with some religious ideals, and fossil fuel use rationalisation policies are against commercial interests of oil producing nations. On another hand, the objectification of sustainability goals does not necessarily lead to best results, it may conversely render things meaningless.

The previous discussion of development paradigms illustrates their limitations. The recommended model for Egypt is endogenous development, this being capable of handling the shortcomings of the previous models.

Endogenous development is a development strategy, based on regional necessities, locally available resources and activation of indigenous potentials. An essential element of the strategy is the broad participation of local population in the initiating, planning, implementing and monitoring of the process of development. Endogenous development is suggested to be a progress through which concern is given to indigenous knowledge, and the internal potential powers of people (Islami, 1998). Thus, the two basic pillars of such development are first, indigenous resources and knowledge; and second, public participation.

Indigenous Knowledge is the systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments, and intimate understanding of the environment in a given culture. Local values, experiences, activities, techniques and even materials are all included under indigenous resources and knowledge, which is the suggested base for launching endogenous development.

Indigenous knowledge serves as a springboard to technological development, dynamic rather than static, holistic and culturally bound, oral, experiential, and highly accessible although not documented.

The belief system, politics, economics and the kinship pattern in each society are interdependent and all of them function together as a whole. In any society, if change starts with an inner dynamic, the whole modifies itself in all its aspects and becomes a new structure. But problems arise if change begins as a result of external dynamics.

Indigenous knowledge systems are not inferior to global systems, they have sometimes just been unavailable to researchers because they were undocumented. Indigenous knowledge is very relevant to all human activities as it promotes the full and active participation of local people in all consequences of their own affairs. IK is capable of being integrated into modern sciences. Local knowledge is also tested, accepted and found easily adaptable to its own people's needs.

Indigenous groups proved to be constantly experimenting and changing in response to the imperative exogenous factors of the marketplace, even in the case of their technology. Local peoples continually test and evaluate new production and management techniques [e.g. farmers, fishermen ... etc.], adding those found beneficial and discarding ones that are no longer useful to their context.

Thus, we have to maintain our links with historic heritage, yet not to deny ourselves those contributions which modern technology can make improving quality of people life.

An active role for people in the process of development is a paramount and it is rare to find any recent document on development which does not refer to participation. Public participation in decision-making is crucial as consultation can reveal conflicts between different interest groups. Thus, by working together people learn from each other. The UNEP report of 1999 confirms public involvement, voluntary action and NGO participation to be strengthened in almost all countries [including Egypt], although levels are still relatively low.

Participation should enable the use of cultural resources, values, symbolic principles and people's indigenous knowledge to help societies' transformation and development. The strength of indigenous groups rests on kinship bonds and the way these groups jointly conduct their political, economic and religious affairs.

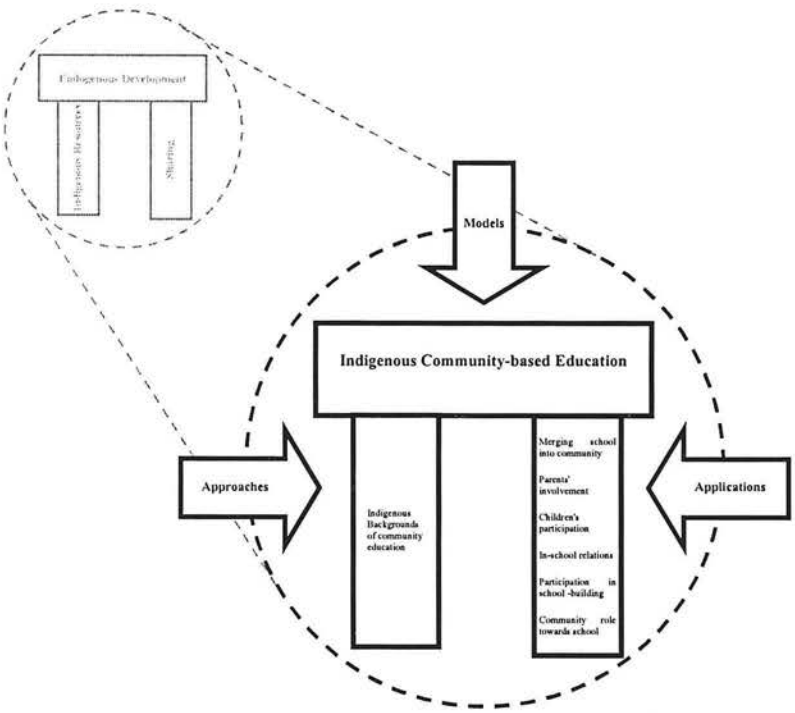
Individualistic culture presents a number of separate fields of thought and action, each acting unto itself under its own norms, with no cultural unity in which the parts find their place and meaning. In the absence of real sharing, there is no longer any embracing view of life. Social values are actually what shapes and permits the applicability of individual preferences. The absolute freeing of individuals does not necessarily mean growth in desirable directions but might involve destructive set backs to the whole community. Society is neither a mere sum of individuals nor is it a super-ego, but it is a complex of relationships of the kind to which the term 'personal' is appropriate as indicating both the rational and moral nature of the association and the fact that full human life is possible only in community. A human being can not come to his full personal stature in isolation. Higher human activities like moral conduct are meaningless apart from relations with other persons. In the ultimate sense, development is a reflection of personal values conditioned by the social framework in which one lives.

Participation should not be limited to a specific discipline [e.g. politics] with a particular objective [e.g. decentralisation of power]. It should not remain limited to certain strata or particular specialities. It must emerge from within individuals at grassroots level. The endogenous model requires an interactivist attitude to development, with a greater tendency towards the bottom-up approach. Implementation should start at the level of

institutions [e.g. schools, farms, workplaces, clinics ... etc.], where groups are more likely to share common concepts of 'the good'. Small, self-governing units should be the source of authority and responsibility, and they should determine the use and allocation of resources.

The following chapter discusses educational theories and models towards the application of endogenous development.

CHAPTER FOUR



EDUCATION FOR ENDOGENOUS DEVELOPMENT

Education for Endogenous Development

4.1 Introduction

In addition to the significance of the personal dimension in education [this will be discussed in the next chapter], it is equally valid to look at education as a social instrument, and as a means for the community to develop its heritage of knowledge, ideas and attitudes (Jeffreys, 1972).

The previous chapter concluded that endogenous development was an appropriate model for application to Egypt. This paradigm is based on two main pillars. The first is indigenous resources, including the local culture and environment. The second is sharing[1] and control by the local community. Now the present research will address the application of these two pillars to education at the strategic level. This will be tackled by discussing the 'Indigenous community-based education' trend, based on the same two elements of endogenous development, to devolve an educational model that responds to its demands.

A great deal of the existing literature regarding indigenous community based education addresses the problem of aboriginal residents whose ethnic origins, languages and/or cultures are different from their states'. Although the case in Egypt is not identical, there are reasons to believe that the context of the present study can benefit from the ideas of locality and public involvement which govern this model, as explained below.

[1] It is to be noted that 'sharing' is referred to as 'participation' in most relevant literature, which has slightly different implication. This difference makes 'sharing' more suitable for the organic nature of endogenous development, as explained earlier in Chapter Three. However, 'participation' may be used in the following text while keeping this minor difference always in mind.

It was mentioned earlier in Chapter Two that the majority of Egyptians are descended from unified ethnic origins, and have the Arabic language as their mother tongue. The only other languages spoken are Nubian in Nuba and Tamazighi amongst the Siwa tribes[2]. In addition, there is also a tendency to use foreign languages and dialects, with the introduction of new vocabulary and terminology to the Egyptian dialect, potentially undermining Arabic as the local language in Egypt. It can be argued that language is a major component of culture, a principal carrier of it, and a prime way of communicating and expressing it. Thus, any change in the language may influence culture in the broader sense. This highlights the necessity of caring for the language as an essential part of preserving and reviving any culture.

Thus, the concepts addressed below may be of benefit to the Egyptian context in three ways. First, although not part of the current research, concepts of cultural and lingual differences can be applied to Nubaian and Tamazighi contexts in any future studies taking place in these regions. Second, preserving language and promoting its use and development, to withstand the foreign and dialect influences. Third, the concepts involving cultural differences could benefit every town, village and community in Egypt, given that every community has its own unique culture. Such uniqueness should not be seen as disparity, it is rather understood as different levels of cultural variability, generating diversity within unity, as explained below.

While there are general common features in the Egyptian culture, minor differences characterise every community within this broad framework. One may refer to the culture of Cairo as different from Edinburgh and similar to Jeddah - Saudi Arabia for example. This means that what it shares with the Saudi culture is more than what it shares with the Scottish. Similarly, Jeddah's culture can be seen as different to that of Cairo, compared to that of Alexandria or Aswan. In the same sense, the Cairene culture has some differences when compared with Alexandria, although they are both in Egypt. This may also apply to different quarters or neighbourhoods within the same city. This explains the application of the concept of locality within the context of this study.

[2] Nuba is a region to the south of Egypt, whose residents are originally Sudanese immigrants. Siwa is an oasis in the Western Desert of Egypt. Other Amazigh [Berber] tribes also live in Algeria, Canary Islands, Libya, Mali, Mauritania, Morocco, Niger, Tunisia, and The Diaspora. (see the World Amazigh Action Coalition web-site www.waac.org).

This chapter will first provide brief explanations of the terms most often employed. This will help to establish a proper understanding of their use within the current research and resolve any common misuse of some terms in other related contexts. This includes the terms culture and civilisation, community and society, environment and natural environment, as well as their role in aspects of indigenous community-based education. Following this, **indigenous** concepts and backgrounds with their influences on community education will be introduced. Next different levels of **participation** are discussed within the educational context, and finally, a number of approaches, models and world-wide experiences to indigenous community-based education, will be discussed to enrich the theoretical study through practical findings.

4.2 Culture and Civilisation

In Webster's dictionary, culture is "the act of developing the intellectual and moral faculties especially by education ... the customary beliefs, social forms, and material traits of a racial, religious, or social group ... the integrated pattern of human behaviour that includes thought, speech, action, and artefacts, and depends upon man's capacity for learning and transmitting knowledge to the succeeding generations".
Morgan (1986) adds that culture is the pattern of development reflected in a society's system of knowledge, ideology, values, laws, and day-to-day rituals.

Culture is a set of beliefs or assumptions that a group of people share concerning how to see things, how to interpret events, what is valid to question, what answers are acceptable, how to behave toward others, and how to do things. The culture of a group of people develops as they associate with each other. The most important parts of it are unconscious and they cannot be imposed from outside (Stacy, 1993).

In order to define the social function of education it is convenient to make use of two other words, 'civilisation' and 'culture'. In the present context 'civilisation' is used for social structure and function, whereas 'culture' denotes our interpretation of that structure and function. **Culture is what we think of our civilisation**. This can be phrased as follows; both animals and humans have civilisations, but only mankind has culture. Though, in a healthy society **culture has to interpret the civilisation that exists and not one that has ceased to exist or never existed**. In this regard, education is seen to be a cultural instrument that ought to conserve, transmit and renew civilisation (Jeffreys, 1972).

This does not mean that culture is dissociated from history. It is known that there is interest in Egypt, for example, with the Prophet's life and the Muslim ancestors. These examples derive from aspects that did not cease, but are continuing to be part of peoples' lives. So, a sound cultural understanding interprets, conserves, and transmits that which is still living and developing from these previous civilisations.

Yet, **'civilisation', 'culture' and 'education' are connected in such a way that none can be healthy unless all three are in proper relation to one another**. If the culture of a community is out of step with its civilisation – if for example, the culture represents a social pattern and social values which no longer exist, or which come from different backgrounds – the education of that community would be using obsolete and irrelevant culture as its material, hence it becomes ineffective and unreal (ibid.).

To allow education respond to social and cultural transformation, it is recognised that the main challenge is to adapt the content and methods of education to new demands, while at the same time upholding educational standards and essential traditions and values (OECD, 1985).

Thus, the essential principle for the selection of material and curricula must be **relevance**, rather than contemporariety. Knowledge is dead unless it is instrumental in interpreting the world of active experience. Unfortunately, the gap between educational theory and practice is quite obvious. Too much of what is taught is of little help in understanding the world in which we live or as a preparation for living in it. School and 'life' are too far apart, and what is worse is that the gap between them is being accepted and taken for granted by everybody. Schoolchildren may scarcely seek any relation between school knowledge and life experience (Jeffreys, 1972).

Jeffreys also argues that efforts are now needed to understand our world and our place in it. This kind of understanding is most essential in a civilisation that is increasingly complicated with remote and invisible controls. To relate this to historic studies for example, the most valuable result of the study of history is the habit of looking at situations in the perspective of their development. It helps us to distinguish the universal and permanent from the local and transitory, and makes us conscious and critical of those basic assumptions which form the basis of culture and how it arose.

As outlined in Chapter Two, Egyptian culture is the result of the accumulation and transformation of many civilisations who have lived by the banks of the Nile, including

the Pheraonic, Roman, Muslim ... etc. Studying history in the above sense enables people to develop their culture by interpretation of their traditions in a fashion that benefits, and is incorporated into their current way of living.

4.3 Community and Society

It is clear from earlier discussions that community is central to indigenous education. But we need to have a clear concept of community that goes beyond 'people of related ancestry or traditions, living together in the same place', to encompass a dynamic process of meaning-creation and co-operative action.

Tonnies (1957) developed a theory to define community [*Gemeinschaft*] versus society [*Gesellschaft*]. He suggests that **community is ruled by natural will**, by the acceptance and unconscious evolutionary transformation of the inherited mode of thought and perception of the forefathers. **Society is the product of rational will**, in which thinking has gained predominance and come to be the directing agent. He also argues that all individuals act according to both types in varying degrees, they are both found interwoven in all kinds of human associations.

Webster's Third New International Dictionary: a Merriam-Webster states that *Gemeinschaf* in German means **community**, where in French *gemein* is common or general. *Gemeinschaf* is a **spontaneously arising organismic social relationship characterised by strong reciprocal bonds of sentiment and kinship** within a common code of tradition, contrasted with *Gesellschaf.* Where it explains *Gesellschaf* as the German of company or **society**, given that *gisellscaft* in French refers to companionship, and that in French too *gisellis* means one that rooms with another. This is to say that *Gesellschaf* is a relationally developed **mechanistic type of social relationship characterised by impersonally contracted associations between persons**, contrasted with *Gemeinschaf.*

Building on this idea, Fettes (1999) suggests that in the *Gemeinschaft*, people remain essentially united in spite of all separating factors, whereas in *Gesellschaft* they are essentially separated in spite of all uniting factors.

Tonnies further divided the community into three components, either of which necessarily exists wherever human beings are related through their wills in an organic manner. These components are:

1. *Gemeinschaft* of locality: this is based on **common habitat**, and may be conceived as a community of **physical life**. It can be established merely through the collective ownership of a land for example.
2. *Gemeinschaft* of mind: this implies co-operation and co-ordination in **action towards a common goal**. It also expresses the community of **mental life**. It takes place in sacred places and worshipped deities.
3. *Gemeinschaft* of kinship: this signifies **a common relation to, and share in human beings** themselves.

There is apparent similarity between Tonnies' *Gemeinschaft* and the idea of **'nation'**, which to many Euro-Americans has come to 'define' the ties of kinship, place and mind. The message conducted through school and media is that the nation is my people, my country, my way of life. Under this model, no direct contact is required between the individual and the vast majority of one's co-citizens. It is only a continually renewed reciprocal faith to believe co-citizens are like oneself. It is neither natural nor rational will, but it is this faith, or rather this **imagination,** which fills in the gaps (Fettes, 1999). Human spirit searches for material to construct community, employing whatever comes to hand: ethnicity, religious belief, sexual orientation, and vocations, anything that can provide a good **medium for community imagination**.

Under this theory one may interpret some of the educational practices in Egypt to promote the process of society imagination, hence supporting the 'state' concept. There is evidence from Egyptian history that the pattern of '*Gemeinschaft* of kinship' existed until the introduction of 'modernisation', which shifted the interest towards 'state' and 'society' rather than 'community'. This shift can be seen as trying to promote '*Gemeinschaft* of mind', which, when unsuccessful, remains only at the level of '*Gemeinschaft* of locality'. The role of education and the media should be directed towards promoting '*Gemeinschaft* of kinship' which is already a living component under the surface of the Egyptian culture.

Thus, the close relationship between **indigenous storytellers** and their audience, and the natural and cultural worlds around them, kept the **imagination tied** to the demands

of their living. Whereas for the so-called modern societies, a combination of environmental and social factors encouraged the uncoupling of imagination from daily life in specific communities (ibid.).

Yet, Fettes suggests that community consists, in essence, of such **connections between expressed thought and lived experience**. This is a dynamic cyclical relationship between the stories people tell about themselves and the ways they relate to one another and to their environment. It is a definition focused neither on kinship, nor on place, nor on mind, but on the relationships that they exemplify.

However, the same source concludes that the role of imagination [or mind] alone in the process would be, on its own, powerless to build community, unless others integrate its stories into their own internal vision of their relationship to others and the world, use them as guides to action, and begin to retell them in their own way.

4.4 Changing Values

The question to be asked now is: if culture is to be seen as a dynamic process, how does it evolve? What happens when it is subject to other cultures? And what would be the implication to indigenous community-based education.

Liedloff (1986) suggests that the introduction of new technology to a traditional culture modifies only the surface of the culture, where the values remain unaffected. Reinecke (2000) argues that this only occurs if the new technology is related to and developed from a traditional model that guided its creation. In order for an introduced item or procedure to have such an insignificant effect, it must be able to be interpreted from within the traditional knowledge structure.

An example she uses to clarify her argument is the replacement of a timber pole with a metal-ended hoe to till the soil. This can be insignificant if the culture already uses the technology of metal smithing in some form, where the results of using the new hoe will be seen in improved soil cultivation and probably increased crop yield. When however, the craft of metal smithing is foreign, a gap in understanding between the technology and the traditional knowledge will be felt. This may result in using the technology as it is without having to undergo rigorous tests or future developments.

A simple example of this is the 'sine' and 'cosine' rules used to solve problems related to the geometry of triangles. If these rules were not known to students, they would use

them merely as buttons in their scientific calculators, they are unlikely to be able to derive solutions or develop equations to deal with more complex problems.
Such observations have generated the concern for applying only 'appropriate technologies' in development programs, concentrating on providing modifications to existing traditional technology.

More severe consequences can be seen from the introduction of guns to a traditional hunting community, where highly skilful physical contact traditionally takes place between the hunter and the beast. This is culturally interpreted as a state of maturity and manhood, which entitles the hunter to all manhood rituals, like marriage and superiority over children for example. Replacing this by 'point and shoot' techniques, where superiority comes to whoever holds the gun, no matter how strong or skilled the 'man' is. This consequently changes the perception of manhood, distorts the definition of such values, and results in a serious change in the very heart of their culture.

Thus, whatever 'improvements' are made to an environment, they must be able to be integrated into the understanding [cognitive structure] of the users. Otherwise, the environment will be rejected or used, but without understanding of the motivation behind. This reinforces a sense of powerlessness in the individual, and reduces him to the status of a consumer, when he could have been a powerful participating creator.
It is important though, that education grasps and transmits such concepts of evolution within the framework of local values, allowing the preservation and development of the local culture.

4.5 Natural Environment and Culture

This section discusses the influence of nature in shaping cultures. In their book titled "Systems Behaviour", Open System Group defined 'environment' as:

> *" The totality of external conditions and concrete or abstract items which affect the behaviour of a system."* (OSG, 1981: p.17)

The research refers to natural environment as denoting the natural aspects, characteristics and settings of the above. It is not merely the physical features of this, but rather a more holistic vision of all its subjective and objective components.

Initially, it is important to refer to Rolston's (1988) statement about return to nature. There is a foundational sense in which human craft can never produce any unnatural

chemical substance or energy. All humans can do is shift natural things around. There is nothing unnatural about computers or rockets for example; they are assemblages of natural things operating under natural laws. Thus, return to nature should not be interpreted as a passive action or call for backwardness. Humans do not usually adapt themselves to the wild state of nature, but rather they labour over it, rebuilding it to their cultural needs, owing to the remarkably flexible powers of the human hand and brain.

Any living thing makes its environment into a resource. The sense of the prefix 're' in 'resource' is that nature can be refitted, turned to use by human labour, and only the latter gives it value. All that is required is an informed labouring and conscious shift with no, or minimum, harmful setbacks. Human beings follow what they love, and the love of an intrinsic good is always a moral relationship. Since value generates duty, we ought to follow nature to make its value among our goals; in doing so our conduct is guided by nature. A greater moral virtue comes from this natural attunement, and here we can be appropriately sensitive to its flow through us, and its bearing on our habits of life (Rolston, 1988).

Nature has strongly influenced societies and their ways of living, producing agrarian, herding, hunting, and gathering cultures (Simmons, 1996). The natural world offers an invaluable source of developing human capacities for communication and thought (Lawrence, 1993; Shepard, 1978). Thus, Rolston (1988) suggests that nature is a carrier of both objective and subjective values, and that culture is bound to the bio-system. Yet, she confirms that ecology always lies in the background of culture, and is the element that gives culture and nature entwined destinies, similar to the way that minds are inseparable from bodies.

In his 'cultural core' theory, Julian Steward suggests that culture is defined by a series of core values. These core values arise out of an interaction between the specific physical environment and a continuum of the historic context in which these reactions are taking place, to whatever degree of development can be labelled culture. His emphasis lay on stressing the development of each value in relation to aspects and processes inherent in the natural environment. This kind of research has been labelled 'cultural ecology'. It studies the interactions of societies with one another and with the natural environment in order to define those processes of adaptation and transformation that operate to alter social institutions and human behaviour. Steward defines cultural ecology as the study of those processes by which a society adapts to its environment (Reinecke, 2000).

In the following discussion, some examples are used to show the significance of nature in shaping values, and their application to culture in the general sense. This is not to say that nature is the sole parameter in forming cultures, but is amongst its significantly influential ones.

4.5.1 Moral Values of Nature

Rolston (1988) suggests that human beings do not invent values, they principally acquire them from nature. For example when we delight in the wild hawk in the windswept sky, that is not a value that we invent but one that we discover and follow.
Although nature is **not a moral agent**, and neither its creatures or ecosystem are moral tutors in inter-human ethics in **all aspects** [e.g. survival for the fittest], we can often 'draw a moral' from reflecting upon nature: that is, gain a lesson in living. Nature has a 'leading capacity'; it educates, leads us to know who and where we are, and what our vocation is. Encounters with nature integrate us, protect us from pride, give us a sense of proportion and place, and teach us what to expect and what to be content with. Living well can be actualised through the adoption of certain natural rhythms (Rolston, 1988).

The natural world may constitute a subject for **deep affection, expressing love, and friendship** [e.g. birds feed by picking out food remaining between a crocodile's teeth]. These feelings of relationship and connection provide **intimacy, a way of expressing trust, and a sense of kinship**. Through the shared conviction in life's underlying meaning, people achieve a **sense of cohesion and mutual commitment**. These sentiments encourage the belief that at the core of human existence resides a fundamental logic, even harmony and goodness. Thus, perceiving universal patterns in creation offers a foundation for morality, which gives definition and **shape to human existence** (Kellert, 1999).

Katcher and Willkins (1993) as well as Sperell (1986) suggest that nature represents a powerful source for **emotional belonging and attachment**, especially through companionship with other creatures.
Bonding and affiliation remain critical pathways for developing the capacity for **co-operation and sociability**. Caring and being cared for offers a means for **expressing affection, companionship, and association**. These benefits accrue under normal circumstances but become especially pronounced during moments of crisis and

disorder, where the response of others may be mentally and physically restorative (Kellert, 1999). The above examples make a case for the influence of nature in shaping culture. A culture characterised by co-operation, friendship, kinship ... etc. is definitely different from one that lacks these values, although is not the only shaping parameter, nor accepted in a manner that copies all it represents.

4.5.2 Religious Values of Nature

Religion is one of the crucial components of culture. Although its influence varies between different cultures, it was stated in Chapter Two that religion is so influential in shaping the Egyptian culture that the well-known Greek historian Hetrodotus describes Egyptians as *"The most religious of all men"*. The following section discusses religious values that can be learned from nature.

Humans derive faith and confidence through discerning a unity that transcends their aloneness and separation. And when people **divine spiritual and moral connection with creation**, they tend to protect nature and its constituents. Yet environmental respect emerges as an element of a perceived link between human wholeness, natural process, and spiritual well being (Kellert, 1999).

Despite the huge variety and variability of species living in nature, there is an equally astonishing similarity which unites much of life on earth. For example the sharing of common molecular and genetic structures, reproductive features, and parallel body parts. This unity and connection provides people with a sense of underlying meaning and order for spiritual and religious belief (Kohak, 1984).

The complexity of nature in both extremes of micro and mega scales provokes more astonishment and wonder, which deepens religious beliefs. For example, looking at the universe, galaxies, planets and stars, and how they move together under such homogeneous system, or looking into the very minute details of the atomic components and behaviours at such small scale provokes similar inspiration. Although it seems scientific, this can be described as religious in the sense that religion is about the attempt to understand nature and existence. The following quotation concludes such a relationship as:

> *"to know nature was to know God, although there was radical controversy about means of knowing: whether by faith, by speculation, by right reason, or by physical inquiry and experiment."* (Williams, 1980: P.71)

The strength of nature had made people in the old civilisations consider it to be a goddess or a divine mother, embodying the spirits of wind, sea, forest, moon and many other natural phenomena (Williams, 1980). This has been of significant influence in the lives of the ancient Egyptians. Pharaohs glorified the gods and goddesses of sun 'Ra-Atum', earth 'Geb', water 'Tefenet', air 'Shu', mountain peak 'Meresger', as well as many others representing natural phenomena, which were all symbolised using a natural vocabulary, like animal and bird heads and bodies (DiPaolo, 2001).

It is evident that the natural environment plays a crucial role in the main doctrines of the world religions. Islam, for example, **identifies nature with signs of God**, and similar ideas are found in most other major religions. A number of religious and philosophical schools of thought in the East Asian countries, such as the Chinese philosophy of Taoism, are characterised by a conscious and active relationship with nature. Modern secularism and exploitation of natural resources seem far removed from such attitudes, what is seen by many observers as the path to devastation of the human environment (Baark & Svedin, 1988).

Many other religious instructions are driven through examples from nature. For example Jesus asked believers, in their search for the goods of life, to consider the natural beauty of the lilies of the fields, which the affected glory of Solomon could not surpass; he points out birds, who although hardly lazy, are not anxious about tomorrow. In Quran, for example, *Surat Al-Rum* refers to the wind and its effect on creating rain essential for agriculture and plants.

> *"Allah is He Who sends the winds, so that they raise clouds, and spread them among the sky as He wills, and then break them into fragments, until you see rain drops come forth from their midst! Then when He has made them fall on whom of his slaves as He wills, lo, they rejoice!"* (Holy Quran, 30: 48)

On another hand, *Surat Fater* tells about the wonder in rivers and seas.

> *"And the two seas (kinds of water) are not alike: this is fresh sweet and pleasant to drink, and that is salt and bitter. And from them both you eat fresh tender meat (fish), and derive the ornaments that you wear. And you see the ships cleaving (the sea-water as they sail through it), that you may seek of His Bounty, and that you may give thanks"* (Holy Quran, 35: 12)

4.5.3 Symbolic Values of Nature

Symbolising nature enables people and cultures to address complex dilemmas such as life and death, authority and independence, order and chaos, good and evil ... etc. in a manner that is tolerable yet instructive. This explains the employment of natural

diversity as a kind of raw material for advancing the exchange of information and understanding among and between mankind. We accomplish this through **metaphor, abstraction and analogy**, and by using the media of **language, story, myth, proverbs, fantasy, and other communicative means**, which collectively with other parameters mould the culture (Kellert, 1999).
In proverbs for example, we may refer to "the early bird gets the worm" - "the north wind made the Vikings" - "the tree stands that bends with the wind" - "If winter comes, can spring be far behind?" It is so obvious how nature has been used to encourage moral and religious contexts (Rolston, 1988).

People employ natural descriptions in their languages and metaphors. The occurrence of this metaphor in all cultures and historical eras suggests a universal and indispensable role. Natural diversity provides a rich source of material for symbolic creation, and each use represents the exploitation of nature's clay from which people fabricate solutions to their life challenges (Kellert, 1999).
Rolston (1988) suggests that no culture develops in isolation from the environment on which it is superimposed, no matter how free humans are in their cultural options. The ideographic features in nature blend with those in culture to particularise and enrich the resulting identity.

Taking this one step further, the cultural-symbolisation capacity of nature is suggested to have been a recurring feature of many cultures. Every homescape has its old and familiar haunts, which enter our sense of belonging and identity. **Culture mixes and dissolves in landscape and wildlife**. The bald eagle symbolises American self-images and aspirations of freedom, strength and beauty, as are the lion to England, the bear to Russia, and [the eagle to Egypt]. With regard to botanical symbols, the maple leaf is symbolic for Canada, [as is the thistle for Scotland, and the cedar for Lebanon]. Natural areas enter the local cultural moods too, for example Grandfather Mountain is taken a symbol for North Carolina, and the Horsetooth Mountain for Fort Collins, Colorado (Rolston, 1988).

It must be emphasised that these examples are driven by the context of their symbolic value, although they are so recurringly used as signs. A symbol is that which involves cultural meaning and special connotations, where a sign is just a sort of code to indicate

a specific body or a direct meaning, as in traffic signs for example, which involve no sentimental or cultural impressions.

The following example is intended to clarify this point. Official documents in Lebanon are all headed by a cedar stamp, in this case as a sign. But this is very different from the feelings and meanings experienced when seeing the cedar in the state flag or on a tourist brochure. In this case the cedar provokes the feelings and the sense of the place, the atmosphere, nature and culture. In contrast, a sign may also be used as a symbol, as can be seen with the big 'M' originally used as the sign of an international fast food chain, and now taken as a symbol of western influence and globalisation.

4.5.4 Architecture and Nature

Having mentioned earlier that man labours on Nature in a variety of ways, architecture produced by man is undoubtedly one of the most remarkable influences on it. Organic architecture is a style of living architecture, initially established by Frank Lloyd Wright and Bruce Geoff. It is based on viewing architecture as a true organism, inspired from the seed of an idea, and brought into life. Within this perspective, a work of architecture should be an expression of the highest values of its culture, inspired by the creative imagination of the architect, and incorporating the aspirations of those who will use it. It should demonstrate faith in mankind to rise above all degrading and destructive forces which abuse nature. It should be at one with Nature, and act as part of the site, not merely a structure placed upon the site (Wythe, 2000).

In this regard, Hubble and Hubble (2002) quote:

> *" Organic Architecture should not be understood as part of the argument between classical or romantic art ... it should* ***be understood as indigenous architecture****, based on values springing from the local soil and people, of shared social consciousness and the collective unconscious ... it is for the unity of uniqueness as we find it in nature"*

Although the word 'organic' in common usage refers to something that has the characteristics of animals or plants, organic architecture is not a style of imitation of either. It did not claim to be a building form representative of nature. Instead, organic architecture is a reinterpretation of nature's principles as they had been filtered through the intelligent minds of designers. Organic architecture involves a respect for the properties of materials, and a respect for the harmonious relationship between the design and the function of the building, an example of this is Wright's rejection of the idea of making a bank look like a Greek temple. Organic architecture is also an attempt

to integrate separate spaces into a coherent whole, a marriage between the site and the structure and a union between the context and the structure (Elman, 1998).

In brief, a building may respond to nature at three levels. The first level is simply the using of local materials, integrating to some extent with nature rather than imposing foreign material on it. A higher level of integration may be seen in preserving nature and designing a building to comply with the natural settings of the site, whether trees, ponds or contours. The third and deeper level of integration with nature is 'going fully organic', that is to have a natural metaphor and analogies in the concept, design, and distribution of elements.

Among contemporary Egyptian architects who undertake similar approach are Hassan Fathy and Gamal Bakry. Fathy can be categorised within the first two levels, in that he was keen on using local materials and preserving the natural physical settings of the site. Although, he was accused of having only a shallow understanding of the cultural attributes of local residents when designing the Gourna residential project. Its site was far from the core local economic activity, resulting in one of the most beautiful but deserted residential schemes. Bakry, on the other hand, dedicates special attention to natural analogies and vocabulary in the concept and morphology of his designs, avoiding straight lines and favouring more curvilinear patterns. In doing this, however, he sometimes uses reinforced concrete to produce the shapes he designs, which could be argued as in direct contradiction to the basic principles of organic architecture. Unfortunately, neither architect has designed schools in Cairo.

An example of school architecture which integrates the building with the natural environment, and involves the above three levels is Hallfield School at Paddington – London. Designed by Sir Denys Lasdun in 1948, Hallfield also provides local community's access on evenings and weekends. Although Sir Denys Lasdun is known as a modernist architect, this project embodies strong concepts of responding to nature, to the extent that many architectural critics consider it closer to the vocabulary of organic architecture. Lasdun's design dismissed the diagrammatic approach to design, avoiding grids, boxes and standard modules. He aimed at achieving ultimate integration with the site, retaining most of the trees, and producing a curvilinear and fragmented form (Dudek, 2000).

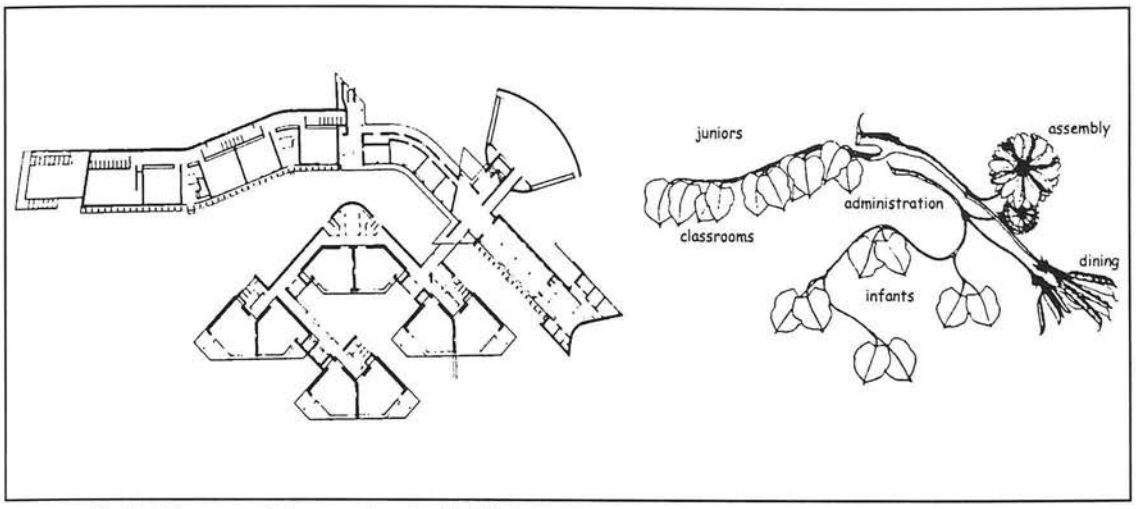


Figure (4-1) The natural integration in Hallfield School at Paddington - London, designed by Sir Denys Lasdun (Dudek, 2000).

The botanical analogy shown in figure (4-1) above is not a mere imitation of a natural form, but rather a reflection of the meaning of life, growth, and support for the community, all of which are associated with education as much as they are associated with plants. In addition, the meaning of gathering are promoted by the use of the flower as a metaphor for the assembly hall.

More details concerning the significance of sound relationships between school buildings and the natural environment, as well as its effect on learning and educational outcomes, are discussed in the following chapter.

4.6 Indigenous Backgrounds of Community Education

Setting the principle basis of indigenous education, Jeffreys (1972) suggests that there has always been education, even though there have not always been schools. In Shakespeare's time for example, few people in England went to school or learned to read and write. But this lack of literacy does not mean that people were uneducated. In some ways they were better educated than their descendants today. The peasant in the village learned the arts and skills of farming, together with much traditional wisdom about the earth the sky, and living things. People shared a true, indigenous, popular culture with a rich heritage of customs, tales, games and music.

Before the state adoption of mass-schooling in the UK and Europe, schools were usually part of a church or commercial institution, where children gathered around a master to receive moral and religious instructions (Dudek, 2000).

Likewise in Egypt, during the ancient Pharaonic eras, schools were attached to temples (Saleh, 1966), and in the Roman Byzantine reign [30BC-640AD] schools were

appended to churches and abbeys (Habib, 1966). Similar experiences can be seen in early Islamic periods where education took place in the mosques. The parallel tradition of teaching in elite palaces started in the Umayyad [661-750 AD] and Abbasid [750-1258 AD] eras (Ghouli, 1991), though flourished in Egypt during the Fatemid reign [969-1171AD] (Shalaby, 1966).

4.6.1 Background to Non-indigenous Education

The existing literature relates the decline of local cultures and languages to the domination of non-local ones. This probably **started via colonisation then continued by nation-state governments** controlling and directing mass education, and reflecting their specific linguistic, cultural and educational values and practices as dominant groups. Notwithstanding this, education was a key institution of the colonising or nation-state, and has played a central historic role in the suppression of indigenous cultures and the related assimilation of local communities into the dominant or 'common' language and culture of the nation-state (Anderson, 1991; Gellner, 1983).
In the process, indigenous languages and cultures were specifically restricted and diminished by the state via its education system. This was controlled largely by non-indigenous educators, and was, in effect, a means to legitimise unequal power relations, giving privilege to these languages and cultural practices over indigenous ones (May, 1999a).

Decades of neglect for community involvement finally gave rise to a demand for community education. Referring to an example from Arizona in the US, the failure of schools educating local people was blamed on a lack of community values in formal schooling, despite the fact that such local values and knowledge proved to be valid and preferable (Watahomigie & McCarty, 1994). Until shortly after the 1952 Revolution, the situation in Egypt was pretty much the same. Schools used to have a valuable role in society, including the running of evening sessions and involvement in projects for the eradication of illiteracy. Similarly wealthy people donated generously to develop schools, and gave scholarships for distinctive pupils to promote educational standards. This changed when the revolutionary ideology was geared principally to remove every trace of the monarchy and feudalism, assigning the mission of mass education solely to the state. This is the point at which the concept of school - community mutual support, was stopped in Egypt, although it developed and flourished elsewhere.

Community-based education should be relevant to the needs and interests of diverse communities who want to free themselves from the pressure to conform to unwanted, dominant cultural structures, aiming to make schools more organic within their local culture (Corson, 1999).

The danger of dominant cultures controlling local ones comes from the unfortunate effect of promoting respect for **'sameness'** onto the social world, rather than a respect for **'diversity'** that the actual social world contains. People's real socio-cultural identities have little value in the marketplace of that new world. As a consequence, wherever the values and interests of schools are linked tightly into that marketplace, students and teachers from indigenous backgrounds find that their interests are still missing from education. Students still feel anonymous and distant from school goals. They feel powerless in the face of this anonymity (Corson, 1999).

A major problem with the nation-state is the ideology of **political nationalism** that imposes a uniform national culture on all citizens who may have different cultures, like the minor cultural difference between Upper Egypt and Lower Egypt, for example. However, this national culture is often the preserve of the dominant ethnic group, where other languages or cultures may be tolerated within the nation-state, at best, in the private domain (May, 1999b). In other words,

> *"Certain common institutions essential for the well being and smooth functioning of the nation-state as a whole must be maintained:* ***common language, common political system, common economic market system*** *and so on. Cultural pluralism can operate at the level of the private, rather than public, concerns such as use of ethnic language* [and cultural practices that are different from the mainstream] *in the home"* (Bullivant, 1981: p.232)

It is known that the nation-state is the basis for political order in the world toady. While a nation-state has to exercise internal political and legal jurisdiction over citizens, and claim external rights of sovereignty and self-government in relation to other states, it clearly experiences **pressures both from above and below**. Pressure from above refers to the influence of globalisation, multi-national corporations and supra-national organisations. Where the pressure form below is exerted by minority groups claiming their right for greater representation within the state's structures, or even forming their own independent states (May, 1999b).

The difficulty is the integration of social cohesion, while recognising and incorporating ethnic, linguistic and cultural diversity within the nation state. This phenomenon can be depicted as **centripetal and centrifugal tendencies** (Schermerhorn, 1970).

Historically, there are two contrasting approaches to such pluralism, these are **liberal and corporate pluralism**. Liberal pluralism is characterised by the absence or even the prohibition of any ethnic, religious, or linguistic minority groups - under the banner of social cohesion and notional homogeneity of the 'whole' nation-state. Corporate pluralism, on the other hand, involves the recognition of minority groups as legally constituted entities, allocated certain social and political roles. Such roles invariably differ depending on the minorities' size and influence (May, 1999b).

4.6.2 Setbacks of Non-indigenous Education

In non-indigenous education, students have to master material that is often irrelevant and unfamiliar to them and their parents. This is also often conducted in a language that they do not speak at home and learned only when they came to school, and in an interactive style that is at odds with their conventions. A study of Innu[3] education in Canada concluded that harm was associated with non-local control over education. Most Innu students did not compare favourably to the externally imposed norms. Moreover, the constant unfavourable comparison took its toll on students, as their supposed shortcomings were publicly and privately revealed, the students themselves came to accept the notion that they were somehow less favourable, or even unworthy (Ryan, 1989). Many of those students who managed to stick it out until graduation did not obtain the jobs they were promised if they followed such non-native educational programs. What was more disturbing to Innu parents was that school seemed to turn students away from their own culture. This was manifested as shaping student attitudes away from their own culture and in ways that were not always supportive. A parent describes this as "robbing their way of life" (Ryan, 1999).

In Egypt, this led to internal emigration from the countryside to capital cities to seek career opportunities relevant to the acquired education. This caused serious environmental, economic and social problems in both the countryside and in capital cities.

[3] The Innu are a group, or rather groups, of related native people who have inhabited large portions of the Quebec-Labrador peninsula in northeastern Canada.

However, the potential of formal education can only be realised when the goal is not simply to impose national education policies but rather to strengthen the identification of the local community to its group, its institutions and its environment. The challenge is to design, implement, supervise and adequately fund systems that meet educational needs without discarding traditional education, knowledge useful for subsistence, cultural vigour and self-confidence. All too often **formal education cuts off the pupils from their traditions, undermines distinctive subsistence and cultural practises and creates tension**. The traditional education system must be fully understood before new plans are made. Co-ordination between state, indigenous and NGO institutions involved in educational policy is essential (Beauclerk et al., 1988).

Another major problem associated with non-indigenous education lies with communication difficulties. It has been reported in empirical studies that the effectiveness of classroom instruction can be severely reduced as a result of cultural and linguistic differences between teachers and children, as well as discontinuity between native home environment and the school. Miscommunication results from the **absence of appropriate social conditions** necessary for the required communicative interaction to occur. In other words, it is the substantial **differences between the world-views and belief systems** of native and non-native people which form an important source of misunderstanding (Lowell & Devlin, 1999). Differences in perspectives, expectations, understandings and interpretations [phenomenological differences] are also sources of communication difficulties (Christie & Harris, 1985).

One of the communication difficulties associated with non-native teachers is the difference in **cultural expectations** with regard to **listening behaviour and indicators of attention**. For example, a child's level of auditory attention is usually judged by a number of indicators, such as physical orientation towards the teacher or current task and eye contact, as well as their level of distractibility and restlessness. Differences between Aboriginal and non-Aboriginal listening behaviour have been reported, such as reduced expectation of visual attention and kinetic indicators of attention, and less obligation for the listener to respond quickly, or at all (Harris, 1997; Kearins, 1985)
The other socio-linguistic differences that were thought to contribute to classroom difficulties experienced include the **different understandings** teachers and students had regarding the appropriateness of asking questions, and how to frame them, the misinterpretation of which may be **disrespect**. Variations in the length of pauses

considered appropriate; and the degree of comfort or discomfort in performing in public were also problematic issues (Lowell & Devlin, 1999).

The Egyptian Ministry of Education should consider this notion in teachers' recruitment and allocation policy. This policy is currently based on appointing inefficient teachers to remote areas and small villages, where the more favoured are moved to capital cities disregarding the educational difficulties associated with such cultural differences.

Finding out the reasons behind such communication differences, Lowell and Devlin (1999) suggest the following explanation. From an Aboriginal perspective interaction is regarded as continuous, as if the communication channel is 'turned on' and left on, but non-Aboriginal participants are more likely to regard it as contained, talk is packaged into discontinuous bits. The communication channel is 'switched off' explicitly, which allows one to say something like 'I can't talk now'. This is found to be a principle difference that has strong effect on many behavioural aspects, as well as the way they may be understood.

4.7 Sharing

The previous chapter pinpointed the significance of public involvement in development. Aristotle believed that people realise their full humanity through association with one another. Plato subsequently adopted the ideal of 'good society' that fosters **harmonious interactions among its population towards promoting common goals**, utilising individual differences in hierarchically different social roles for which citizens should be prepared through appropriate education (Kahne, 1996).

Indigenous communities are based on the ideal of 'respecting individuals in return for adherence to high standards of service'. This gives the individual a sense of personal power, autonomy and strength making every individual believes at heart that they are a king or queen serving the people (Hampton, 1995). Also worth highlighted in this context is the Islamic educational perspective, which expresses attentive awareness of the needed balance between 'individualism' [the details of which are to be discussed thoroughly in the following chapter] and 'collectivism' [the topic of this chapter] (Aiche, 1987). In this regard, the prominent Muslim scholar Mohamed El-Ghazali states:

> *"Education must not only seek to fill the young mind with knowledge, but must at the same time* ***stimulate the child's moral character*** *and* ***stimulate him to the properties of social life.*** *"* (in Kurshid, 1978: p.28)

Local communities grow in self-respect and acquire **genuine political influence** as they take **greater responsibility for their schools**. By implementing collaborative management among its staff and the community, a school limits the degree to which wider social systems constrain action within it. In other words, collaborative management creates better relationships between schools, the economy and the state, and enables further power and flexibility. Working collaboratively, school-policymakers can challenge and mould those relationships to advance the interests of their schools and the community. **Community-based education begins with the people** and their immediate reality. Above all, it allows them to become meaningfully involved in **shaping their own futures** through the school and other agencies in their community. Meaningful school reform often depends on this kind of participation, in which people renegotiate and reconstruct the ways in which a school relates to the interests of the community (Corson, 1999).

Clarifying the significance of people coming together to shape their own schooling, Jeffreys (1972) explains that one can easily find **love among a group** of people, but it is unlikely to be perfect among institutions. Institutions do not love; institutions are not the expression of love, they are rather a protective device to make up for man's lack of love. We need the morality of law to supply the lack of a morality of love. But it is better that the morality of law should know its imperfection, for there is then some chance that love may work to redeem the morality of law. He finds the solution to this as "to love and be loved", as the foundation-stone of social life upon which to build, and which can be amplified by community participation in all aspects of their life, including schooling. Thus, not only must school afford opportunities within its own limits for learning how to **live together**, but the school must also seek to be a community in which true values prevail. Likewise all elements in society must appreciate that they have an educational contribution to make.

Adding to this, Daigle (1997) sees community-based education as a form of social action within a community framework that extends beyond schools as institutions. It allows community members to become self-oriented participants in the creation of the learning environment offered by the school.

Corson (1999) concludes that where a community has a major hand in policy-making and in the educational process, the entire programme of schooling is directed towards elevating the status of the community and questioning the role of schooling in that process. OECD (1985) adds, schools function best when all participants, including teachers, recognise that a great deal is expected from them. Community participation is a factor in efficient school organisation.

The integration of different areas of knowledge is an essential characteristic of learning, seeing **knowledge as a living thing which people build together** (Lowell & Devlin, 1999).

The following discussion covers the different levels of participation needed to promote indigenous community-based education as a step towards endogenous development.

4.7.1 Merging the School into Community

Different talents, aptitudes and interests call for variety rather than uniformity of educational programmes and for the use of learning environments beyond the classroom (Piazolo, 1984). The expansion of the school into the outer world and the penetration of the outer world into the school are complementary processes. Both are necessary to achieve reality and effectiveness in education (Jeffreys, 1972).

In a recent study, it was shown that schools run by education departments in Britain with wider societal involvement, provided more than a hundred activities, whereas those with minimal community involvement had only six or seven activities. The study suggests that children of such overly protected schools lack the intellectual stimulation, and ability to develop autonomy within a safe and secure environment (Dudek, 2000).

In order to increase the effectiveness of a school, its physical resources and life must extend to the wider community, running evening and weekend activities using school facilities. At such events, parents who need help and advice can talk with other parents. In this way the mutual exchange of skills and ideas becomes a by-product of the school social structure, and the whole society learns through the school (ibid.).

Within this context, Dudek points out that some funding agencies[4] encourage this trend by considering minimum weekly hours of community-access for any school to be eligible for funding, keeping the premises managed by the school itself on behalf of

[4] e.g. UK National Lottery

local people. In this way, additional facilities such as sports halls and swimming pools can be built within the school site without the need for autonomous management structures.

The prominent educationalist John Dewey developed the idea of the **school as a microcosm** – i.e. as an image of the world. It is argued that the all-important thing about school is that it should be in actual connection with the world, at a maximum number of points, to be able to present a realistic image of it. The connection between the school and the life of the community is never so convincing as when work done in the school is of direct value to the community (Jeffreys, 1972).

It can be seen in many examples of school architecture how careful consideration for the whole community can create an architecture that promotes sociability, encouraging a sense of group belonging. For example, in line with Dewey's educational vision, and to form a more controlled version of the school as a microcosm of the society, new schools would have streets and shops, banks and a choice of restaurants adjacent to the more traditional teaching spaces (Fisher, 1997).

Hans Scharoun took special care in taking a humane approach in his school designs. The schools he designed in Germany during the 1950-60's reveal connections to Dewey's ideas. These schools were not only responding to functional requirements, but were also concerned with the school's social role. Scharoun saw the school as a **microcosm**, the metaphor of the city depicted the classrooms as houses, each with their communal space articulated as a sort of internal street. The chapel and the assembly hall in this metaphor could be interpreted as the church and the town hall in terms of urban iconography (Dudek, 2000).

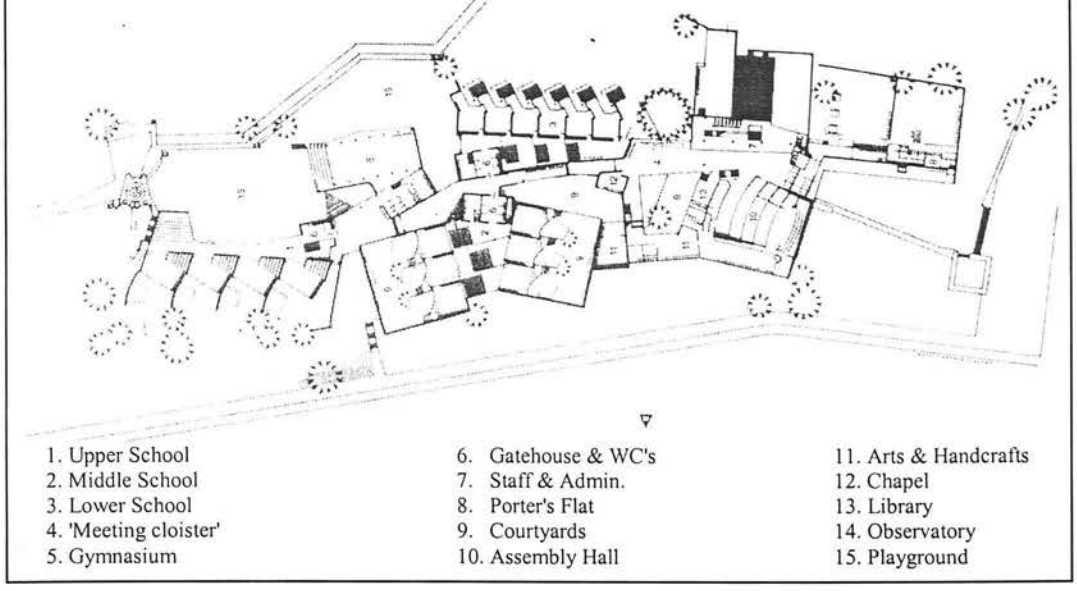


Figure (4-2) Ground floor plan of Hans Scharoun's project for a primary school in Darmstadt - 1951 (Dudek, 2000).

In his Darmstadt school design shown in figure (4-2) above, the classrooms were arranged in three separate units, each accommodating three school years with their own common rooms and facilities. This spatial sequence created a hierarchy that went from private to public. Starting first with the private domain, the pupils inhabit their own dedicated space within the classroom, then belong to the class social group, then the school unit, then the whole school and finally the locality or the neighbourhood. The three wings were connected by a passage conceived of as a meeting place, with additional facilities such as the assembly hall, staff rooms, gymnasium and workrooms. Scharoun described the assembly hall as 'mediating room'. It was an open area for pupils of different ages from the three class-wings, and visitors from outside the school. This school, with it's rich humanistic setting, was seen by many as an important representation of the pupils and their relationship to the wider world (Dudek, 2000).

Many traditional primary schools were built with high walls around their playgrounds, [as the case is in Egyptian schools] for the sake of children's safety. The walls emphasised the special nature of the school but also demarcated its sphere of influence in the community. Even in the middle of a busy town schools were isolated from life around them, and the walls designed to safeguard the pupils cocooned them within an environment akin to an isolated island fortress. There was little exchange with life outside the school, with even parents only being allowed within the walls on special occasions (Rintoul & Thorne, 1975).

There is a primary school in Baden - Switzerland that adopted a design strategy to **integrate itself 'physically' into the urban fabric**, and hence create a genuine building for the community. Höchi school complex in Dättwil district is comprised of one mainstream primary school and another for handicapped children. The complex, designed by local Baden architects 'Burkard Meyer Steiger' [shown in figure (4-3) below], is arranged around a public piazza on a pedestrian route, which makes it a meaningful urban gesture, helping to integrate the school into wider urban fabric (Buchanan, 1991).

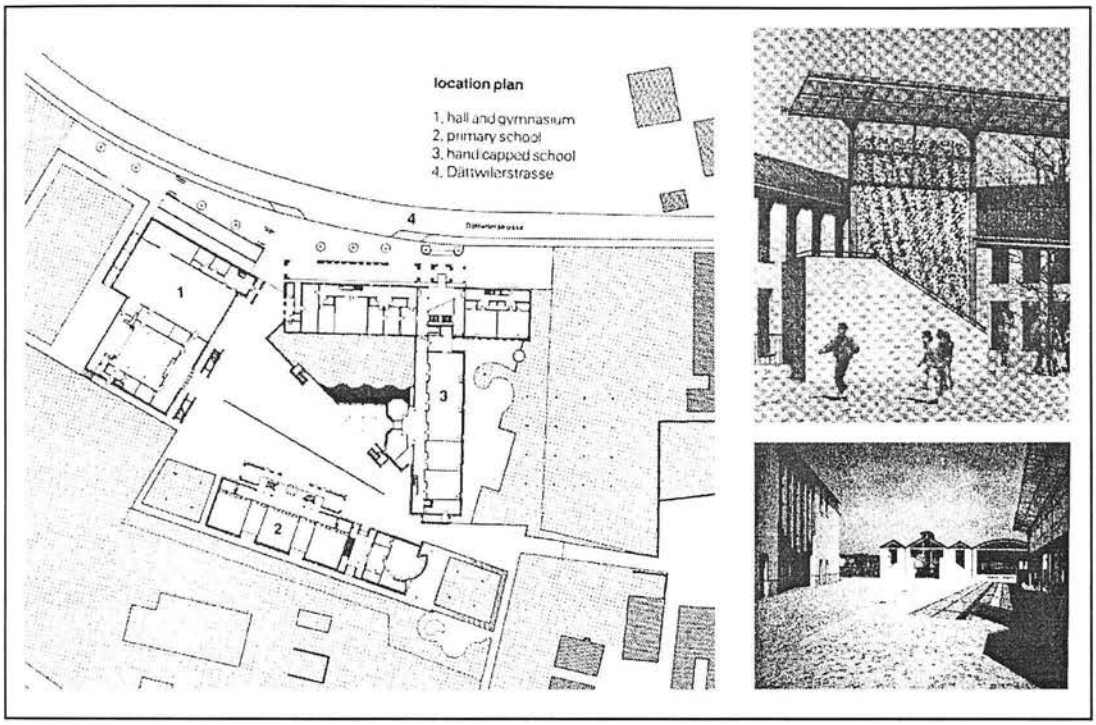


Figure (4-3) Höchi - Dättwil School Complex: lay-out and piazza views (Buchanan, 1991)

Its buildings are divided into three parts surrounding the piazza. The hall and gymnasium comprise a single self-contained group to be used outside school hours. The primary and handicapped schools form the rest of these three units, each with its own distinct entrance. The entrance to the primary school building is characterised by a distinctive portico that leads into the piazza. Staff room and administration were located off the main entrance to maintain discrete control. Circulation spaces and elements are viewed as important meeting points within the building, adding to the social life of the institution. The corridors open up into balconies overlooking the theatrical spectacle of pupils moving up and down the staircases. All windows and balconies look out onto the piazza space, which becomes an extension to the field of learning, and a forum for public life. From the relative privacy of the classrooms, to the publicness of the piazza, a spatial hierarchy is established to enable pupils experiencing different levels of social

interaction. This design enables the school spaces to be used as any city might be used: freely yet under discreet supervision. Access to the school is only by foot, with no parking areas provided, to encourage walking to and from the school, and allowing users to enjoy the natural pace of the city and its institutions (Dudek, 2000).

Because of its urban openness value, some critics find the school far too susceptible to the threat of stranger dangers[5]. They claim that caring for the social function of schools should not sacrifice the security dimension. On the contrary, the role of the school premises in providing a social focus implies that the school should be a flexible and responsive structure which is 'open' functionally and symbolically. Such difficulty can be overcome in an integrated society that shares and gathers around a strong indigenous culture, where everybody is responsible to the whole society. In endogenous models, it is the whole community that is the authority to safeguard values and culture, as well as the safety and security of its members, physically and symbolically.

Community involvement in schools is being expanded further. An interesting concept that has been introduced is the construction of community schools, in which the building is designed to accommodate the neighbourhood uses. A coffee bar, recreation rooms, library and lounges may be included in the building, and **parents and others** are welcome to use them **during and after** the school day.

This concept was initiated by Henry Morris[6] in the 1920's to include all the various vital but isolated activities in village life - the School, the Village Hall and Reading Room, Evening Classes, Agricultural Education Courses, the Women's Institute, the British Legion, Boy Scouts and Girl Guides, the Recreation Ground, a branch of the County Rural Library, Athletic and Recreation Clubs, bringing them all together, and creating a new institution for the English countryside (Morris, 1925).
Impington Village College, designed by Walter Gropius and Maxwell Fry [opened 1939 in Cambridgeshire - England] is a remarkable actualisation of this concept. It can be noted from figure (4-4) below that classrooms are set apart from the communal facilities to keep the studying environment quiet for pupils. The community wing has been designed with the windows facing away from the students' zone for the same reason.

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[5] Openness to society versus sustaining higher security levels are two conflicting trends in school design. Reference is made to Dunblane tragic event 1997 in the UK, as well as the series of similar sad experiences in the USA schools.
[6] See also: The Henry Morris Collection, H. R'ee (ed.) 1984 Cambridge: Cambridge University Press.

Social encounters and association are emphasised by people mixing while they use different facilities such as the library and the hall (Smith, 1997).

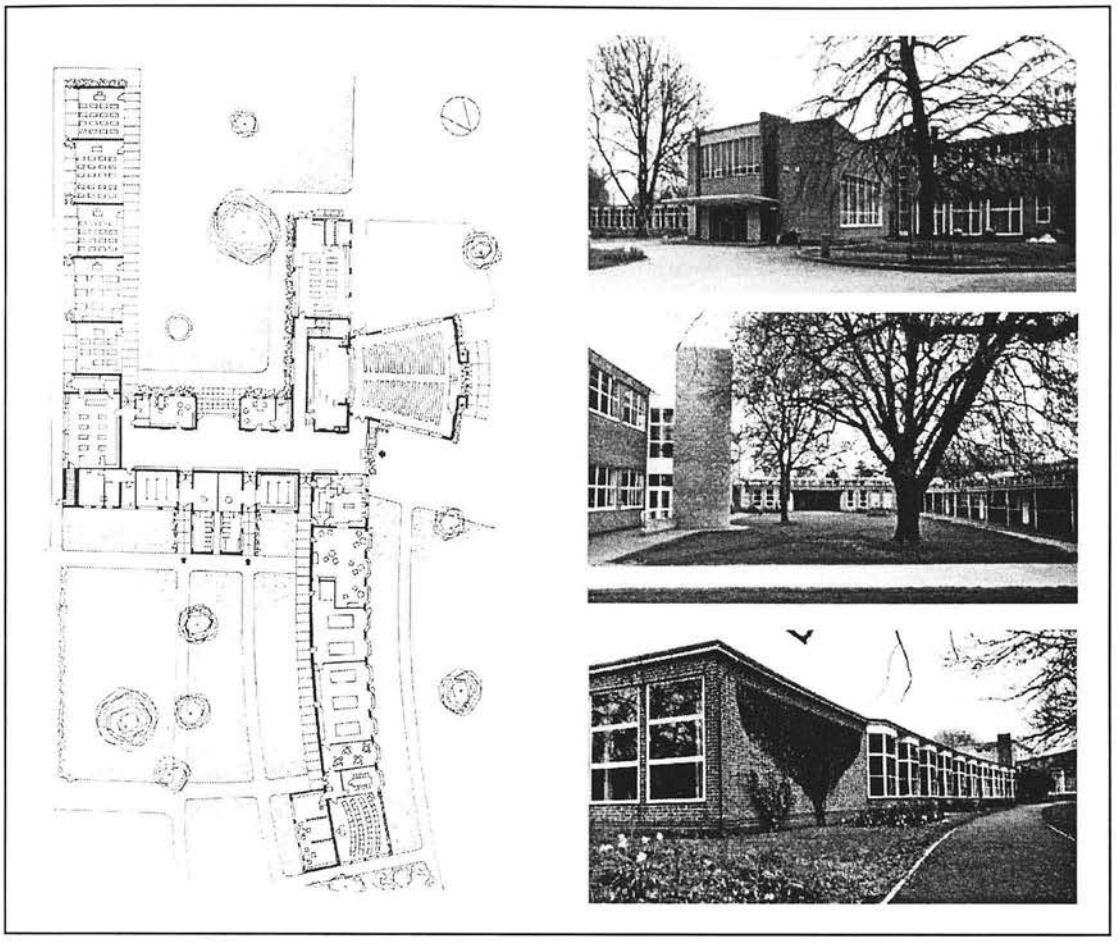

Figure (4-4) Impington Village College in Cambridgeshire - England
Left: plan (Gabor, 1972)
Top-right: main hall with the adult wing to the left and workshops to the right (Smith, 1997)
Middle-right: workshops to the left, promenade ahead and classrooms to the right (ibid.)
Bottom-right: The adult wing (ibid.)

In this school we can also see the emphasis on rural regeneration through the provision of a workshop that could be used for the cultivation of country crafts, and local vital services including the public hall, the library, adult education space, social provision [billiards], sports facilities [changing rooms etc.] and a common room for local people (Smith, 1997).

Purpose-built community schools need a head-teacher and staff who are truly interested in the community, and who are willing to involve themselves in activities which are of a far wider scope than the traditional work of a school. The school's relationship to the local community can be a two-way process. While parents come into school, children can go out to help where possible, for example giving gifts to elderly people in the

community on certain occasion [harvest festival for example], or contributing to a concert or musical entertainment in community centres (Rintoul & Thorne, 1975).

To foster the process of community-based education, schools should bring their activities closer to family activities. This can be achieved, for example, through child care or playgroup arrangements that offer contact with adult specialists in tutoring computers, dance, drama, writing, library research, athletics, and after-school jobs. These are also excellent settings for the communication of cultural attitudes, and for the revival of cultural, managerial, and political skills (Fishman, 1991).

Policies of reform in indigenous education should always involve the school's community in its work. Not only should it communicate the work of the school to parents, but it should also draw on the community's knowledge, expertise, and cultural practices to shape the work that schools undertake, and make it relevant to the lived experience of local children (Corson, 1999).

4.7.2 Parental Involvement

The family, and not the individual, is the real unit of society. The family, because it is the primary community, is the natural context in which personal values are learnt and the meaning of personal living understood. It is in the family that relations are essentially personal, and each person is valued as an individual. The integrity of the family is moreover the most important fortification against the destruction of personal values by other forces in the modern state. Societies need to recover the meaning and importance of the family, and education can help this by spreading knowledge about family life and home-making (Jeffreys, 1972).

The mobility of families today has often broken up the extended families of a close village or town community. There is no granny or aunty round the corner to look after children when a young couple and their baby go to live in a new estate. The elderly are unlikely to find somebody to look after them (Rintoul & Thorne, 1975). This is also very much the case in Egypt, particularly with the crisis of internal migration resulting from the search for a more favourable career, as discussed earlier.

Jeffreys (1972) suggests that modern state practices like old-age pensions and state provision for age and sickness have seriously affected the family's responsibility for its weaker members. Universal education has also played a role in removing what had been

a very important parental responsibility, as well as in enlarging the cultural gap between generations.

Jeffreys also adds that economic changes have broken the old-fashioned continuity of occupation from father to son; the tendency is for members of the family to scatter into different careers with no regard for any family implications. Such life complexity, career commitment and the multiplication of recreational possibilities, have drawn family-members out of the home, with the result that family-members scarcely meet for a meal or discussion.

It is unfortunate that this is happening in Egypt, where the family gathering is a principal component of people's culture, but one which is being eroded for the sake of modernity.

One can recognise the role of family attitudes in teaching children attitudes towards different aspects of society such as elderly care, special needs, sick people, different races ... etc. The relationship of this to education needs to be understood. A child's success in living happily alongside other people depends on the family balancing opposing pressures and tensions. On the one hand, children need the security of a loving home and caring school, but on the other hand, also need opportunities to achieve their own independence and autonomy. An over emphasis on security without balancing opportunity to attain autonomy will hinder a child's development. Parents have the difficult task of maintaining such a balance. They should not, for example, smother a child's initiative and do everything for him when he is capable of doing some things for himself. Neither should parents give a young child so much freedom and independence that he feels insecure and neglected, or may be becomes spoiled. Sometimes, the parents' love is a warped version of self-love, pushing the child to achieve what a parent could not. Such strain may lead to anxiety and even severe mental and physical illness (Rintoul & Thorne, 1975).

The home has a crucial educational responsibility. A home where worth-while books are never read, where parents are constantly out in the evenings, where dubious moral standards are accepted, and where conservation never rises above triviality, is not the kind of home that helps the school to do its work. Nor can the school bear the whole burden. Parents must be partners with the school, and everything possible should be done to help them to appreciate the need for their contribution to this partnership, so that

school and home can deal together with problems arising either at school or at home (Jeffreys, 1972).

Involving parents in school activities and programs of post-compulsory learning should bring different generations closer, having common activities, going to same places, and learning about new things like computers, the internet, communications, contemporary vocabulary ... etc. so that parents are not out-of-date with respect to their children's world.

To strengthen the link between home and school, parents may come to have lunch with their children in the school-café. Teacher / parent meetings can take place there too. Some schools may arrange an annual book exhibition to show parents what are good books for children of different ages. To prevent and tackle any difficulties arising from the side of the parents, during the school day small groups may be invited for a guided tour throughout the school premises, so that they can see for themselves how the school is run. Another idea along these lines would be to send parents guidebooks and short updates about the school. These can be put together by the teachers perhaps with assistance from some of the children (Rintoul & Thorne, 1975).

Although constant participation and regular involvement in school issues is an effective way to update parents on the way their children's education is directed, it is important to resist pressure from uninformed parents enforcing their educational views upon teachers and children. Instead, parents and other adults should be encouraged to share common objectives with all groups linked to the school (Dudek, 2000).

Corson (1999) suggests a detailed scheme for parental involvement. He suggests arranging a kind of regular parental evaluation committee. This committee would study the school's operations three or four times a year, and discusses its comments with the school staff and board. Parent conferences may be held twice a year, during which parents observe classes in the mornings and meet with teachers in the afternoons. With such a level of involvement, it would be logical and useful to use parents as consultants on curriculum content, and even hire them as to work as instructors and support staff.

4.7.3 Children's Participation

While children are without doubt the primary users of the school, are at the heart of education, make up a significant percentage of the world population, and will be participants in future development, it is not until recently that children's participation has been addressed in the relevant literature.

In the prominent UK "Elton Report"[7], the matter of participation and ownership is clearly recognised as influential in terms of pupils' behaviour. The report states: "Where pupils are provided with a pleasant environment they respect it and when they have contributed to it they treat it as their own. This applies to buildings, grounds and equipment. We believe that this sense of participation in the ownership of a school plays an important role in the way pupils behave" (CEDS, 1989).

Hart (1999) asserts that the benefits of participation by children are much greater than simply making the product or programme more appropriate for the user. He believes that real long-term benefits lie in the fact that the individuals involved develop confidence and competence and that the organisation's structure and function is improved.

Titman (1994) found that there was little correlation between the children's choice and those of the adults, and concluded that most adults are incapable of accurately predicting children's preferences. Thus, where school grounds improvements are planned, participation by children is likely to lead to the design of the grounds being more appropriate and this, in itself, means that children are likely to develop a different attitude to the place.

Where children have been involved in a meaningful way with the grounds of their school, they believed that the grounds were 'theirs'. Where they had not, they said the grounds belonged to 'the school' or ' the council' (Titman, 1994). Hart (1999) suggests that children develop a sense of love and care for their environment through active participation in it and autonomous unlimited contact with it.

The extent of participation can vary from being simply told what will happen, to the other extreme of having the capacity to initiate projects and acquire resources and technical advice from external agencies while having the central role themselves.

Hart (1992) developed the concept of the 'ladder of participation' originally conceived by Sherry Arnstein in 1969 (Titman, 1994). He categorised these levels of participation by the degree of involvement of the children in the initiation and development of any project. In this model, shown below in figure (4-5), Hart suggests that the degree of involvement ranges between eight categories, the first three of which he considered as 'non-participation', where the following five represent degrees of 'genuine

[7] "Discipline in Schools: Report of the Committee of Enquiry" - Committee of Enquiry into Discipline in Schools, chaired by Lord Elton - 1989.

participation'. However, it should be noted that this model does not refer to age differences within the childhood stage, and that there is difference in cognitive ability and needs for children between five and twelve years old. This aspect is discussed in more detail in the following chapter. The following illustration briefly outlines the steps of this ladder.

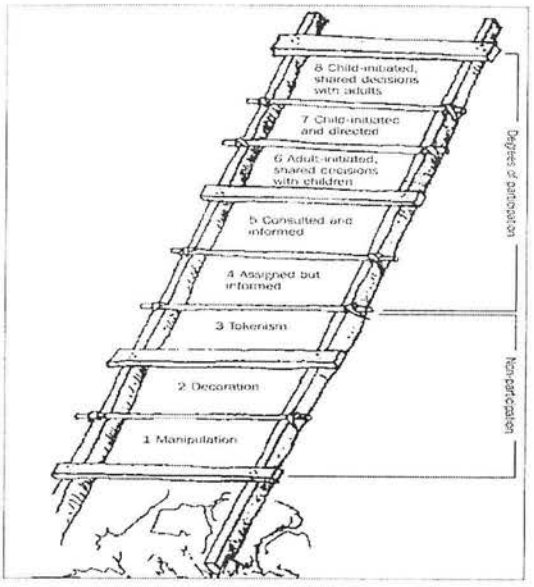

Figure (4-5) Hart's ladder of participation (Hart, 1999).

A. Non-Participation

1. Manipulation: those instances where adults consciously use children's voices to carry their own message. For example when children are involved in a small part of a planning process, but the finished result is so presented as if they had designed the entire project.

2. Decoration: children are used to promote a cause, but have little notion of what cause it is and no involvement in its organisation. This is an adult pretence of precocious understanding among the children. This does not need to be negative if it is obvious that the children are not a part of the cause itself but their presence is used to bring joy or enrichment to the occasion, for example in the case of a theatre or dance performance.

3. Tokenism: those projects where children seem to have a voice, but in fact have little or no choice in the subject and no time to formulate their own opinions. This is a common stage engaged in by adults who are just beginning to be aware of the need for real participation. The role of the child is little more than symbolic however.

B. Designed Participation

4. Assigned but informed: children are fully informed and feel ownership of the issue and are involved in critical reflection, but follow the adult directives.

5. Consulted and informed: children are invited to contribute to the process, and see all stages of the project from conception to implementation.

6. Adult-initiated, shared decisions with children: an open-ended process where children are involved from planning to realisation.

7. **Child-initiated and directed**: mostly confined to play in a facilitating environment. Children make all decisions about the activity.
8. **Child- initiated, shared decisions with adults**: any project that is child-designed but involves adults in key roles to realise the project.

Hart (1999) considers the last five stages of this 'ladder' to enable some degree of genuine participation. The first three grades, namely 'manipulation', 'decoration' and 'tokenism' have been, for too long, mistakenly considered viable approaches within the field of the child / adult relationship. These three grades put the child into the role of the subordinate, second-class citizen, and without the ability to exercise his basic rights. He concludes that the optimum situation is '**child initiated, shared decision with adults**'. Reinecke (2000) adds that children must have the freedom of choice, determining the extent and the area of their involvement, a choice as defined in stages 4-8 in Hart's model above.

Applying Hart's model to the current Egyptian educational context, the level of children's participation is found to be between steps 1, 2 and 3. The state has to show willingness to apply the international funding organisations' agendas and reform programs, but educationalists scarcely seem to have the capacity to really involve children in decision-making, or accept being directed by children's decisions.

An example of a participatory project aiming at achieving the level of participation Hart suggests is "The Urban Network Program", created by Sharon Sutton[8] in 1991. Her aim was to lay out parameters for an approach to helping children realise their power to responsibly influence their social universe. In this program, children participated by conducting interviews, making plans, publicising events, planting flowers, sewing banners, building toy-structures in a playground or any other form of active involvement to build a sense of social cohesion. Sutton (1996) concluded that participating children carry with them a sense of achievement and memory of having stretched the boundaries of their environmental awareness beyond the walls of school and home.

Pia Bjorklid conducted another study into pupil participation in Sweden (1985). She explains that the school has an obligation to give pupils increased responsibility and the

power of influence in line with their increasing maturity and age. Many schools implement this through the establishment of class committees or councils. The study found that the in many schools the concept of responsibility related mainly to everyday jobs such as cleaning up after others and being head of table at lunchtime. Although some of these tasks were considered hard work, the children found them attractive.

4.7.4 In-school Relations

Dewey (1966) sees the educationalists' task as to develop pedagogy and the curriculum to fulfil the needs of the individual child, and create small communities in which children can work co-operatively towards common goals. Children are expected to pursue different ends but **maintain strong ties to the community** and to one another.
What he wanted schools to provide was far beyond access to knowledge and culture, but rather to foster transformative educational experience that would **develop a sense of mutual dependence and shared interests** among students. He believed that group activities can teach students to work towards common ends even if they have divergent perspectives or divided roles, given the appropriate social organisation and fair division of responsibility.
Each individual agrees to concede certain rights to his fellows in order to induce them to make the like concessions to him – i.e. **'duties in return for rights'** deal. In this way the individual is assured a certain level of freedom and protection, where the community is assured of sufficient **cohesion, balance, and stability** while retaining enough variety and initiative within it to give it vitality (Jeffreys, 1972).

The **pedagogic** approaches adopted in a school are crucially influential in school community inter-relationships. The move towards **practical task-based group-activities**, away from other forms of learning which would be assessed and delivered by way of paper and pencil tests [i.e. certain unified number of subjects with specific curriculum to be taught and tested at all schools – as in Egypt], creates profound difficulties for teachers who became overwhelmed by the weight of bureaucracy. In addition, the concern is that this more passive form of learning will create a generation of adults who were unable to think for themselves, thus undermining the perceived virtues of imaginative creativity and freedom of expression (Dudek, 2000).

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[8] University of Michigan, College of Architecture and Urban Planning.

Competitive schooling is likely to prevent students developing a sense of connection to one another, and promote **isolation and selfishness** amongst the pupils, and consequently have a similar impact on society. Judging students in such a way may mean making one child's success dependent on another's failure, teaching students to **attend to personal interests** rather than societal needs, and weakening the overall social bond (Kahne, 1996).

In this regard, Bondevik (1984) concludes that **examination and assessment** should not be carried out just to put one child ahead of another, it should primarily take place to **identify problems** and areas that require greater attention. To put this another way, exams are important indicators of progress and act as identifiers of problematic areas at individual, school and state levels. But they should not be thought of as the only way and the principal objective, they should be used in conjunction with other educational means. Although exams have been omitted from UK schools for years, their revival [every second year] is currently being implemented to generate a more precise view of future generations abilities.

Management and organisational systems also affect school / community inter-relationships. Many schools [particularly in Egypt] are run under the 'Classical Organisation Theory', characterised by top-down pyramid-like hierarchy. Tasks, rights and duties in this theory are determined by specialisation and clearly defined rules, with no place for developing emotions. Promotions follow seniority (Weber, 1964).

Such a static, bureaucratic system is usually associated with a pattern of centralisation that causes educational difficulties, particularly in relation to horizontal communication. Dismissing sentiments in favour of rules endangers the pupil - teacher relationship, which Rintoul and Thorne (1975) described as the basic source of a pupil's security and stability. This theory of organisation assumes participants to be goal-oriented, which does not necessarily fit with the role of the school as a goal-seeking organisation (Dalin, 1998). Promotion based upon seniority is usually associated with an emphasis on administrative tasks, the consequences of which might turn a good teacher, who might not possess any distinctive administration capabilities nor be interested in a managerial career, into a poorer head-teacher (Derr, 1986).

There are alternative themes of management that are more appealing to the nature of the school and its requirements for indigenous community-based education. For example, there is the **'organic deal'** outlined by Burns and Stalker (1961) under 'Contingency

Theory' which is associated with dynamic societies recognising environmental changes. It is characterised by a notable tendency towards **adopting small and simple structures**, with autonomous **shared power** and influence. Communication is both vertical and horizontal, with overlapping duties and roles, as well as the assignment of multiple tasks to single individuals.

Humanistic approaches further recognising the individual's role are also favourable to indigenous community-based education, an example of which is the **'clan perspective'**. Clan identification conditions represent the **members' agreement** on acceptable behaviour, constitutions and legitimate authority that is usually justified by **traditions**. Rituals contained in the information system should reflect the organisation's norms and values. Stability of staff is also a necessary feature, which should come through selective recruitment and intensive socialisation (Ouchi, 1980).

Under the same theme is the **'Collectivist Theory'** that deepens the sense of **sharing, solidarity and belonging**, as well as promoting **integration with** daily life and **community norms**. It can be described using seven dimensions, which are shown in table (4 -1) below developed by Rothchild-Whitt (1979).

Dimensions	Characteristics
1. Authority	a. Associated with the group as a whole b. Scarcely allow delegations (temporary if necessary)
2. Rules	a. Minimum rules b. Group ethics should identify individual behaviour limits
3.Social control	The basics of which are: a. Careful member selection b. Personal trust and moral appeal
4. Social relations	a. Follow community ideals b. Encourage personal nature c. All-encompassing communications d. Emphasising their own value
5. Recruitment	Takes place through: a. Friends b. Political and social values c. Personal characteristics d. Informal evaluation of skills
6. Promotions	a. Emphasising the embedded meanings within b. Free from hierarchical positions
7. Rewards	a. Normative rewards are most important b. Material ones come next
8. Social team-sharing	a. Emphasising equality ideals b. Extensive care to be exerted if reward differences occur
9. Differentiation	a. Minimum specialisation ▪ Combine administrative and academic work ▪ Reduce division between intellectual and manual work b. Job generalisation ▪ All-encompassing roles ▪ Expertise demystification ▪ Amateur ideal encouragement

Table (4-1) Ideal description of collectivist democratic organisations (Rothchild-Whitt, 1979).

It is not only the management system, school design and element distribution that have an impact on social relations. For example, the **assembly halls, internal streets and**

central promenade walkways play a significant role in bringing people together, providing an **informal social focus**, by hosting school exhibitions and communal meetings. The assembly hall generates a natural sense of community beyond the limitations of the class bases. For the children, assemblies represent a continuing socio-cultural experience throughout their life in the school. The assembly hall with an adjacent dining area form a generous communal space where the **whole school, its parents and friends can come together at various times** of the year to celebrate festivals and discuss community concerns. In regard to **spiritual and moral** concerns, the assembly hall is the point where staff are presented to the children informally (Dudek, 2000). It is the context a head-teacher can communicate directly with the entire student body, and can most easily lead the staff by example. It is an important way of explaining the social ethos which establish behavioural benchmarks for the pupils to follow (Clark, 1995).

The designer should design the hall in a **user-friendly** and welcoming form, bearing in mind the support these spaces can provide to the community to extend the life of the institution. The **central location** of halls within the school-plan makes meetings, gymnastics and singing become a central part of the life of the school, as everyone is aware of their proximity. On wet days it serves as a place where children spend their break-times. It is to be made available for the use of the local community in the evenings, as a wholly appropriate gesture for the community's active participation in the designing, building and running of the school. The central location of a school hall is like that of the medieval town square, where contact can be made between the townsfolk and their leaders. It is the physical and symbolic centre of this extended community (Dudek, 2000).

Herman Hertzberger illustrated new ways of enhancing social relationships between users through the organisation suggested by the built form. This particularly applies to 'Apollo School' and 'De Evenaar School', built in Amsterdam during the 1980's [figure (4-6) below]. It was run under the **Montessori principles**, where child development is based on creativity in contact with peers[9]. To **integrate with the surrounding** urban fabric, he designed the school as a three-story villa. The classrooms were organised around a **central atrium or communal hall** with **open staircases** and **stepped terraces**. This created a spatial dynamic form that enabled further social interaction

[9] Further details about this discussed in the following chapter.

allowing the children to develop constant awareness of their relationship with their own class group and the wider school community (Dudek, 2000).

Emphasising the same theme, Aldo van Eyck adopted an understanding of the sophisticated spatial ideas of harmony in motion, and the importance of **'spaces in between'**. His work was characterised by abandoning the static symmetrical form, favoured for school institutions, and adopting a more articulated dynamic approach. He assembled blocks around open loggias and courts to mediate between inside and outside, creating a more fluid and welcoming effect (Dudek, 2000).

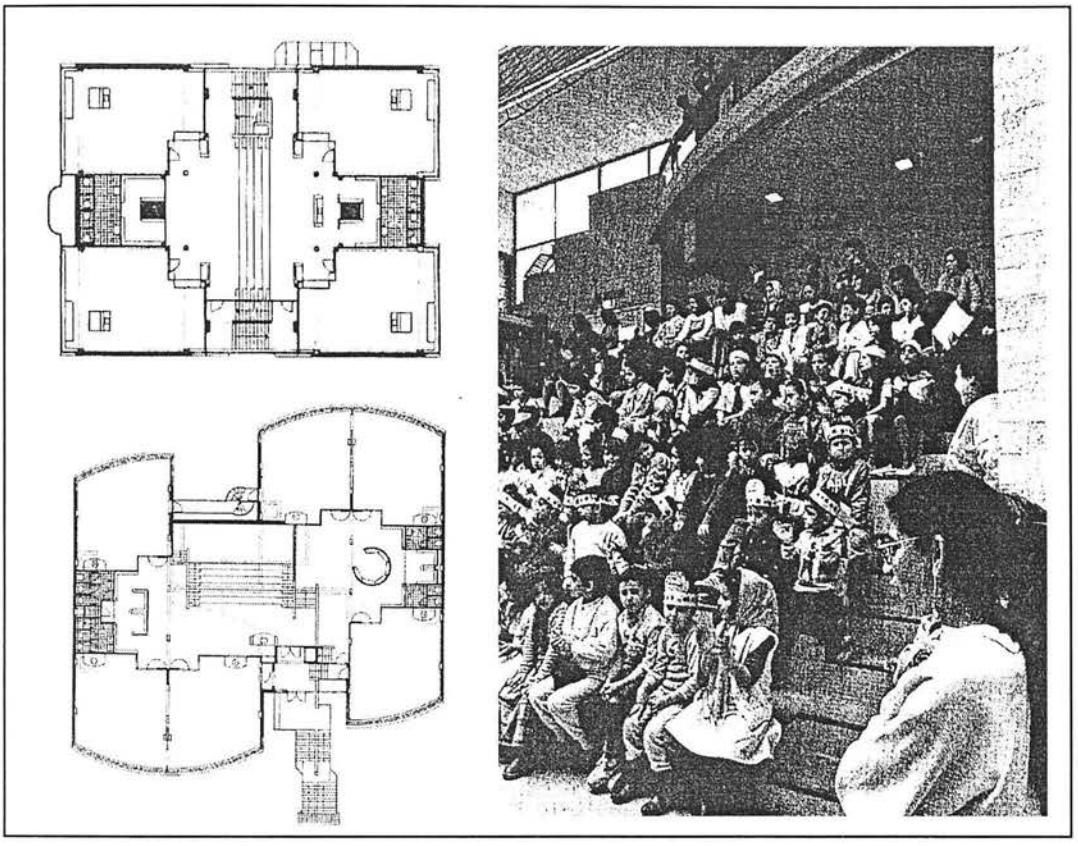

Figure (4-6) The central location of assembly halls in Hertzberger's work (Buchanan, 1987)
Top left: Apollo School - first floor plan
Bottom left: De Evenaar School - first floor plan
Right: De Evenaar School - assembly hall view

Open spaces provide an excellent medium for socialisation and leisure, as well as developing informal relations between pupils and teachers. The moderate Egyptian climate with little rainfall encourages outdoor activities and social assemblies and favours open-air events. This has been an essential characteristic of Egyptian culture from the ancient Egyptian and early Islamic eras to the present day (Abou El-Ela, 1996). Such cultural preference allows external play areas to fulfil a large number of the functions of the assembly-hall.

Reductions in family size have limited children's opportunities for social interaction with others inside the home. Organised, out-of-school leisure activities are no substitute for the type of **informal, unsupervised social interaction** children usually experience when 'playing-out'. By not providing opportunity for children to 'play-out' we are actually leaving more time for passive activities like watching television, a solitary rather than social activity (Titman, 1994).

Lack of awareness of playground **layout and component** organisation can undoubtedly have a negative impact on the school environment. In a UK field-study by Titman (1994), exposed benches, for example, were used mainly as play equipment, particularly where benches constituted the only feature in an otherwise barren environment. Traditional benches were not conducive to **social activity**. Children generally sat under or on something not intended for the purpose. They were often placed in unattractive locations and were either not used or used for everything but sitting on. On the contrary, where appropriate seating existed, this was heavily used and valued. Further discussion of play areas follows in the next chapter.

Open plan classes also provide an inviting model for social interaction amongst children and teachers. This is explored in more detail in the following chapter.

4.7.5 Participation in School-building

In a 1986 paper, Woolley found that if people are involved in the design and development of buildings they were more satisfied with the results, and are more likely to look after the environment.

In school design, the active involvement of more than one or two members of the school community is unusual. No matter how rigorous the designer's vision, it is the teachers [and pupils] who deal with the environment in use. All the complexities implied by the curriculum must be catered for, yet the classroom teacher is often given little more than a room deemed to correspond to the statutory area requirements (Dudek, 2000).

Islami (1998) suggests six stages towards identifying the life process of a house, which to some extent also applies to school buildings. The following figure (4-7) is built on Islami's, with minor modification, to illustrate these stages and show state / user authority at each stage, as may be applied to school buildings in Egypt. It is common that the users' authority stops at the point of use, and when it comes to maintenance,

conservation and renewing, it is the central authority that handles the matter. Only very minor maintenance issues are left to the school administration, like replacing lamps or fixing water taps. This clearly explains the sentimental and emotional dissociation between people and the school. Islami suggests that it would be advantageous if the designer and user co-operate in all stages of the process.

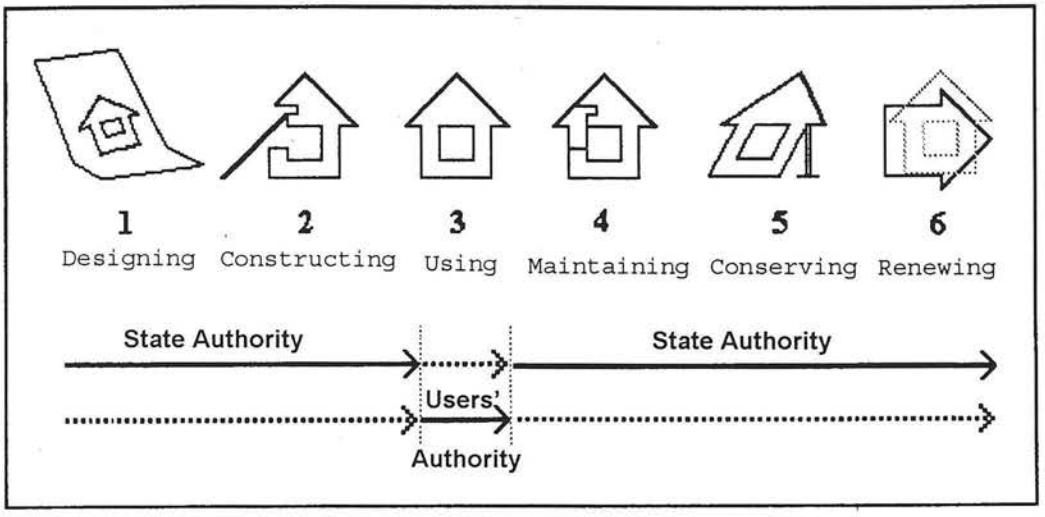

Figure (4-7) The state and users' authorities in the life of a school building in Egypt (Author).

Effective architects should draw on their experience of education, and share their ideas with the end users throughout the design process. Extensive consultation culminates in a form of friendship between architects, school clients and educationalists, helping to bridge existing knowledge gaps (Dudek, 2000).

A recent research project by Melanie Evans[10], carried out an extended six-months consultation, explored the possibility of creating meaningful dialogue between teachers and architects during the design of a primary school in East London. The project used three-dimensional models of classroom interiors designed following an analysis of the curricular needs [through a questionnaire]. Teachers were asked to comment on the functional and aesthetic issues of the proposed models. Participating teachers were ultimately satisfied by the end results, not only because the layout was elegant and purposeful, but also because they were part of the design process. Moreover, their spatial knowledge was enhanced in a way that helped them make better use of the classroom spaces (ibid.).

[10] University of Brighton - Department of Architecture.

4.7.6 Community Role towards School

There is broad agreement that values are an essential component of education, but catering for them solely in school life, is laden with dilemmas and even dangers (OECD, 1985). In response to this, Wahab (1997) suggests that it is the duty of everyone in the community [mass-media, local societies, organisations ... etc.] to act as a custodian and guardian of indigenous knowledge and community values.

It is not too much though, to say that education can never be fully and properly related to the life of the community until the whole community takes its share in the work of education. Public services, such as the post office, would have to co-operate with the schools in showing pupils how these services work. Industries would have to co-operate with the schools in showing boys and girls what types of employment they offer, helping school-leavers choose their jobs (Jeffreys, 1972).

Similarly, a policeman can conduct an informal visit to the school to talk to children about road regulations, or a fireman about safety arrangements. Likewise a foreman in a building site may introduce them to the different stages of his project. Insight can be gained regarding the various professions through visits from architects, veterinary surgeons ... etc. This would definitely help to create strong links to community activities, and break down any barriers created through other, less desirable influences. This may include improper perceptions of particular careers or individuals such as policemen for example. It creates awareness of the links that exist between all members of society, as interdependent parties of a holistically interrelated community (Rintoul & Thorne, 1975).

One recognised perspective in studying the role of different social groups in development is the **civic capacity approach**. The following discussion derives from the context of education, and how co-ordination between all involved parties can take place.

There are various bodies in every society who relate to educational improvement. Many theorists view these bodies as school reform stakeholders. Such stakeholders should form broad-based coalitions and alliances, including educational interest groups, parent associations, community activists, mass-media, business leaders and foundations, together with local government and educational authorities, so as to achieve desirable school reform and educational enhancement (Gittell, 1994).

Such coalitions or alliances are thought to lead to a desired 'civic capacity', which is defined as:

> *"The ability of local leaders to build and maintain effective alliances among representatives from the governmental, business, non-profit, and community-based sectors to work towards collective problem-solving goal."* (Orr, 1996: p. 317-318)

The following discussion addresses the roles and characteristics that each of these bodies should possess and express in terms of educational improvement.

a. Community-based Sector

This includes community organisations and advocacy groups, such as church based organisations and civil rights organisations. These bodies conduct studies and prepare reports to **create awareness** and call public attention [and sometimes participation] to educational problems, even before educational authorities do (Moore, 1992). Moreover, they are geared towards mobilising political power by **monitoring and criticising** the adequacy of implementation of officials' promised changes and improvements (Putnam, 1993).

Relations between such organisations and local officials can seriously affect their likelihood of success. If these interrelations were not stable, such organisations might not be listened to by officials, or may even be depicted as hindering forces against real development in such a way that cuts down their publicity and credibility among the citizens [which is a major source of their power]. If this situation arises, opportunities for participation and the development of new critical studies and ideas becomes considerably limited (Orr, 1996).

Apart from the non-institutionalised efforts of individual mosque-leaders, Egyptian community-based organisations lack power of influence over political and local decision-making. The exception is where one or some of the local officials are members or presidents of such organisations. The threat in such cases is that these organisations might work more on generating publicity for their 'official' members or leaders, rather than criticising them, makes their role ineffective.

b. Political Partners

In this section, the study will address an intermediate scale example [i.e. the city]; to develop a clearer understanding of different higher and lower applicable variables.

Similar concepts may apply to larger scales [governorates and states] as well as smaller ones [villages and hamlets] with cautious regard to the individual nature and constrains of each scale. Political partners include first, the governors [corresponding to head of state – mayor in other scales], second the education superintendents [corresponding to minister - education director in other scales], and third the local public officials and school board members.

They should all have and **express interest** in education, as well as having the charisma to lead and the flexibility and openness to listen. They should also have good interrelations to be **able to communicate** and achieve their goals of development through common understanding. Having contacts and co-operating with non-governmental participants [such as leading businessmen, labour union leaders, political party officials, church leaders, community-based organisations, and heads of non-profit foundations (Stone, 1989)] is of no less importance to promote civic capacity and achieve development (Orr, 1996).

c. The Corporate Sector

This term refers to business leaders and groups, as well as committees including major business corporations, banks, infrastructure companies, and other large firms (Orr, 1996).

Being basically the employers, business leaders have special power **directing educational quality, policy and practices**, to ensure they provide a suitable labour pool that responds to their requirements (Jackson & Cibulka, 1991). From another perspective, business leaders may be more aware of the appropriate stream towards which education should be tuned to promote overall economic growth of the community in line with their work contexts and plans (McGuire, 1990). A third argument suggest their power lies in the financial support and contribution they provide to education (Orr, 1996).

In spite of the value of business corporation views in education, their influence should not be allowed to dominate, that their vision might be limited to financial growth or achieving personal benefits may contradict with the real development of their society. They should merely **participate as part of greater whole**, i.e. work together with representatives of the other societal parties.

Young people's paid occupations should be considered from the point of view of their educative value rather than from the point of their contribution to national production (Jeffreys, 1972). Employment counselling services should establish a close link with schools and other relevant education authorities. This calls for a system of initial counselling, placement, and following-through to the maximum extent feasible. Where schools fulfil the function of helping the insertion of young people into employment, they should ensure knowledge, and the availability, of the broadest possible range of options (TUAC, 1984)

Examples of this sector's role in the Egyptian history can be seen in their response to Ali Mubarak's calls in 1867 for donations to develop education during Khedive Ismail's reign (Fiki, 1997), and Mostafa Kamel's urges to build the first Egyptian university 1908 during King Fou'ad's rule (Bedair, 1950). Similar experience took place recently in response to Mrs. President's calls to rebuild schools after the 1992 earthquake, and these proved to be a tangible success.

d. Education Unions and Syndicates

Education professionals and bureaucrats, namely teachers and administrators are obviously pivot partners and central factors in education. These groups implement and live with any decided reforms, and should, hypothetically, know most about what may be good and what may have a negative impact on educational improvement. Through their unions or syndicates they can also constitute a strong force in terms of political and educational decisions (Orr, 1996).

However, empirical studies imply the need for caution dealing with these groups' recommendations. Some cases reported their bias, motivated towards favouring particular personal benefits, which can have detrimental effects to the quality of education, e.g. shorter working hours, exemption of non-instructional activities ... etc. (ACY, 1991).

e. Non-profit Foundations

The appropriate role of such foundations in school improvement is not necessarily to shape the beliefs of school reformers, but to encourage competent serious-minded reformers in maintaining and realising meaningful reform (Marris & Rein, 1973). In

other words, to act as change agents and catalysts, by continually providing and developing innovation ideas (GBC, 1992).

Such foundations do not only do seek reforms, **encourage innovation, and generate analytical studies**; but also and more importantly they **provide grants and funds** for education, health, arts, culture, conservation and development programmes, which make up an extremely vital dimension in terms of the realisation of any progressive plans (Friend, 1992). The availability of such funds should balance [to some extent] input from business groups.

Before the role of the Muslim Benevolent Society was limited, as a result of political problems in Egypt, the Society used to participate strongly in this regard. A prominent example of their achievements is the establishment and funding of the first private school in Alexandria[11] during Khedive Ismail's rule from 1836-1879 (Fiki, 1997).

4.7.7 Indigenous Dimension in Participation and Control of Education

The building of wider imagined communities does not come easily to people who share only a deep conviction of their own sovereignty, but it is increasingly an integral part of establishing effective local control over education (Fettes, 1999).

Thus, it is important for indigenous communities to establish and direct their own educational initiatives. Hampton (1995: p. 24) states:

> *"There can be no true Indian education without Indian control. Anything else is white education applied to Indians"*

It is clear from the above discussions that community involvement is often frustrated when people from indigenous backgrounds find that all major decisions are made by remote officials. Officials who often do not share the culture of the place, and might not care very much about its future (Corson, 1999).

Local communities should have the ability to direct their linguistic, cultural and educational practices on their own terms, rather than the terms set by others. Without community consultation and involvement in planning, schools will always yield to outside pressures to conform to the dominant culture, with the result that important cultural values weaken and die. However, when schools become organic to their local indigenous communities, such communities are able to insist on the insertion of their

[11] Al-Mowasat Hospital is another famous project they had in Alexandria, and has been the biggest and most reputable private hospital in the city for ages.

own values into the school's organisation, management, pedagogy, curriculum, and modes of evaluation (May, 1999a).

Community-based education tries to put into practice many of the reforming educational ideas of **Paolo Freire**, who urged people to become self-aware and active political subjects. He especially wanted to enable learners to become active participants in shaping their own education (Corson, 1999).
He believed that externally imposed education is a sort of oppression, and that alternative emancipatory educational enterprises should take over. Such projects have to support belonging by reviving traditional culture and language, emphasising the community's past as well as identifying its current place within the global system. They must also grow the seeds of responsibility and compassion among fellow citizens, especially the disadvantaged. In addition schools need to direct the taught sciences and technologies towards supporting local enterprises, and providing students with the necessary skills for global communication and competitiveness (Harber & Davies, 1997).

Freire's reasoning was that no curriculum is neutral, especially one that is selected by people remote from the circumstances of learners themselves. A dialogic teaching approach gives the learners more control over their own curriculum. It allows them to become the teachers of their own experience and culture, who choose and direct the themes that provide their own courses of study. Their teachers are then able to use these themes as a basis for the work they do with students, who are motivated and interested by the relevance of the curriculum to their lives (Corson, 1999).

Having such local participation, over a certain period of time the local community shall take on a new role. It begins to gradually supplement and displace the non-local professionals from the areas that are more properly the responsibility of people who have the same cultural interests as the children. When their own cultural values influence the organisation of a school, the local members of that community become the experts. They become the advisers and real controllers of the education programme. Their values shape educational outcomes. Local political mobilisation with real purpose can begin to occur. Community attitudes are laid bare and discussed. Local people receive formal training as teaching assistants. Parents participate to greater degree in the activities of the school and acquire new skills. All of these things contribute to lifting

the status of local groups. Political consciousness awakens where perhaps previously there was none. And the indigenous cultures become available as recognised political voices at the same time as people's political will begins to assert itself (Corson, 1999).

As a result, schools can be changed - they can become more organic to their local indigenous communities if those communities insist on inserting their own values into the school's organisation, management, pedagogy, curriculum, and modes of evaluation (ibid.).

The following quotation from Corson (1999: p.11) sets a conclusive end to this discussion:

> *"Where an aboriginal community itself has a major hand in policy-making and in the education process itself, the entire programme of schooling is directed towards elevating the status of the community"*

This is at the very heart of development.

4.8 Approaches to Community Education

Indigenous community-based education, that is assumed to respond to endogenous development, is historically rooted at 'community schools'. These schools are characterised by having the physical and administrative structures of the school at the centre of community, to host a multitude of activities, from social work to recreation (Poster, 1982). According to Fettes' (1999), there are four approaches to such schooling. Two of them are linked to 'creating community', while the other two are associated with 'reflecting community'. The following discussion explains the main characteristics of these approaches.

It is unfortunate that school performance in Egypt has been bound into delivering certain sets of curricula with no significant reference to their social role. Thus, one may hardly find any reference to these approaches in recent Egyptian education.

4.8.1 Approaches Creating Community: Externalist and Radical

The first approach introduced is the **'externalist'**. This depends on non-locals bringing the idea, implementing it or funding it. Pioneered by Morris in the 1920s, this model was based on giving the English countryside a number of fine and worthy public buildings, creating a centre of reference, arousing the affection and loyalty of country children and country people. An example of this is 'Impington Village College' addressed earlier under '4.7.1 Merging the School into Community'. This approach essentially depended on outside educators, and the importation of teachers from Cambridge and Oxford to teach countryside-people.

The second is the **'radical approach'**. Historically known as an essentially **reactive** approach, practitioners have been primarily concerned with the **reversal of common modernist assumptions** about education.

This approach is characterised by a view of the community as inherently problematic, dynamic, and unstable, and therefore incompatible with the modernist, bureaucratic nature of state schools. It identifies community on the basis of objective needs rather than subjective adherence. Its externalist foundation makes it vulnerable to abuse through imposing forms of community that are not rooted in people's vision of themselves.

4.8.2 Approaches Reflecting Community: Universalist and Reformist

The following discussion introduces the **universalist** and **reformist** approaches. They appeared in the 1960s-70s in response to certain urban problems [like higher crime rates, drug abuse ... etc.] with particular social classes and ethnic groups.

Nisbet et al. (1980) suggest that these two approaches are characterised by a mutually supportive relationship between school and community, represented by sharing facilities between school and community, undertaking community-oriented curriculum, promoting lifelong education, and involving the community in decision-making and school-management.

Fettes (1999) pinpoints that their differences come from the interpretation of some major points, as discussed below. While the universalist approach focuses on **mobilising support for school themes**, the reformist seeks to **change the school** to be more reflective of the community. In terms of curricula, the universalist approach **includes material** from the local community, where the reformist **redesigns the curriculum** from a local perspective. Universalist schools extend their services to the community by making the school facilities available to the public **after school hours**. Reformists try to integrate age groups **throughout the day**. Public involvement under the universalist approach takes place through parent **representatives**, where the reformist delegates **executive power to a community** council.

Comparing these two approaches, Martin (1987) suggests that universalist schools rely on a **consensual static** model of the community, where reformist schools recognise that **they do not often share all values with all parts of the community**, and see the community as **dynamic**, evolving through incremental, mutual dialogue. As universalist

schools require good **professional leadership** supplemented with community consultation, reformist schools suppose that the school itself should change through the **active involvement** of parents and other community members. In summary, the major characteristics of universalist schools are open-door policies, good parent-teacher relationship, and adult education classes; where reformist schools have issues of power and values at the very heart of their education.

Corson (1999) suggests that reformist approaches have not been as successful. Nisbet et al. (1980) blame this on a fundamental incompatibility between the culture of formal schooling, and the project of developing an organic dynamic relationship with local forms of life. It is a question of achieving the proper balance between native and non-native content among and within individuals associated with education. The following table (4-2) shows the signs of such incompatibility between formal and community-based education models, as highlighted by Nisbet et al. (1980).

Formal schooling	Community-based education
School is compulsory	Community education is voluntary
School seen as an institution for children	Community education for all age groups
Schools are staffed by long-established profession, with hierarchical authority structure directed by experienced older persons	Community education is still inexperienced, with different authority structure, that even questions the appropriateness of hierarchical structures
School experiences are planned and structured to maximise the use of time	Community education encourages groups to learn their own way - in their own time

Table (4-2) Signs of incompatibility between formal schooling and community-based education (Author).

Under Tonnies' model discussed above in 4.3, we may explain the shortcomings of externalist, radical, universalist and reformist approaches to community education. **Externalist** approaches do not work because the effort of societal **imagination** is not being made by the people concerned, but **by others** on their behalf. The **radical** approach is also influenced by its reactive focus towards an overly **narrow** view of what 'being together' and 'being in the world' entails. **Universalist** and **reformist** approaches severely **underestimate the role of imagination**, because they focus on reflecting the society rather than imagining bonds to tie people together. They express no linking of how individuals' sense of self might extend beyond the practices of everyday existence (Fettes, 1999).

It was seen earlier in Chapter Three that the **interactivist** approach to development, which seeks to change the future, has the most in common with the endogenous model.

In terms of education, this can be strongly supported by the **reformist** approach to community schooling, which has a similar imaginative view and willingness to change.

4.9 Indigenous Community-based Education Models

An approach to indigenous community-based education which incorporates a dynamic and ongoing process of cultural negotiation is required, rather than a simple return to, or retrenchment of past practices (May, 1999a). In the following discussion , a number of models and perspectives of indigenous community-based education are forwarded. It is to be noted that the term 'model' is used here to indicate an idea, a way of thinking, view, perspective, representation ... etc. but not a structured model with manifested components, mapping, matrixes, equations and hierarchies, as in the sense of the physical sciences, for example.

4.9.1 Beauclerk's Model

Beauclerk et al. (1988) suggest that appropriate education for local communities has to possess the following features:

- It should not monopolise pupils' time, but needs to understand and relate to traditional education.
- It should be available locally, not involving long travel, so that access to formal schooling is easier, and contact with traditional education remains possible.
- It should be principally conducted in the local language, with provision for adequate training on other languages.
- It should use local personnel as teachers, providing them with adequate training, back up and supervision.
- Control of the educational system should be in the hands of the locals.

4.9.2 Corson's Model

According to Corson's perspective (1999), sound indigenous community-based education requires school environments have the following characteristics:

- Two-way communication between home and school.
- Written policies that legitimise community involvement.
- Collegial and collaborative relations among staff and among parents.
- Determined willingness to share leadership with the community.
- Involvement of the community in all phases of planning and implementation.
- Daily commitment to maintaining community involvement over the long term.

- Local political leadership that eases links between staff and community.
- Administrative support and funding to carry out community involvement.
- On-going training for staff and community to strengthen the partnership.

4.9.3 May's Model

With reference to his experience of alternative education in Aotearoa / New Zealand, May (1999b) summarises the characteristic principles required for successful indigenous community-based education under the following points:

- A greater autonomy over key decision-making in schooling administration, curriculum, pedagogy ... etc.
- The legitimacy of normalising local language, culture and values.
- Employing culturally preferred forms of pedagogy, like peer tutoring and collaborative teaching. These are to be used in collaboration with general schooling methods.
- The mediation of socio-economic difficulties through education.
- Employing the extended family principle by involving local parents in the administration of their children's schooling, hence providing a support network for individual members and involving individuals in reciprocal obligation to support and contribute to collective group aspirations.
- Teaching modern and up-to-date relevant curriculum, within the national guidelines set by the state, assuming that it is not forcing the choice of a certain culture over another, as it is the provision of a distinctively local educational environment.

4.9.4 Stairs' Model

Stairs (1994) builds his model on the so-called **balanced cultural negotiation**. This balance should include an awareness of the potential of evolving cultural identities to provide a rich source of alternatives. While **assimilation** should not result in **cultural loss,** indigenisation that borders upon cultural **isolation** and bans people from exchanging benefits and experiences with other cultures must also be avoided.

Such cultural negotiation can be thought of in terms of three dimensions, these include **'context'**, **'meaning'**, and **'process'**, as explained below.

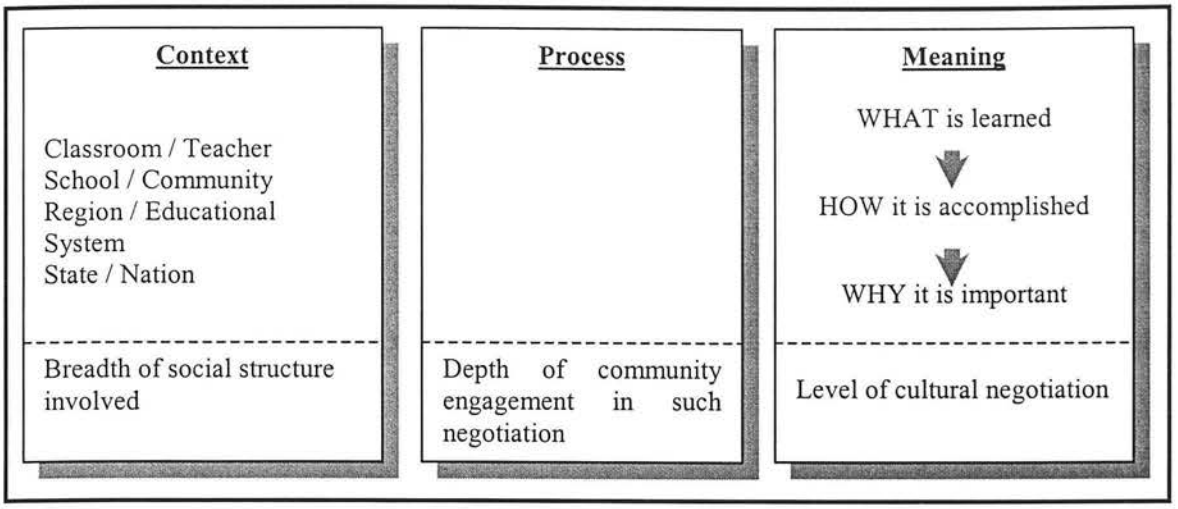

Figure (4-8) Stairs' model for indigenous education (Author).

The context:

'Context' is to do with the breadth of the social structure involved, ranging from classroom/teacher through school/community and region/educational system to the state/nation. The best strategy for indigenous community-based education is to encompass as many contextual zones as possible. National councils should only provide indigenous schools with frameworks for their ongoing negotiation of practice in their own community. Negotiation may be extended to include more contexts like bands, tribes, and local communities everywhere. Contexts are not necessarily related, for example deeply negotiated educational policy at the national or regional level does not ensure deeply negotiated indigenous educational practice in individual schools and classrooms. **The key word is including as many 'contexts' as possible.**

The process:

'Process' implies the depth of engagement by the community in such negotiation, i.e. **the extent to which it relates to and draws from the local domains**. The full implications of a multi-context approach to community-based education only become apparent when we turn to the 'process' dimension. Depth of negotiation results in cultural creativity and active process in the context of classroom and school requires the engagement of students in imagining their own futures.

To design and implement an educational program designed to local needs teacher preparation should include on-site workshops, classes, and participation in summer institutes. The program may make effective use of community experts, especially elders, as well as outside specialists. Besides teachers, such workshops should include school faculty, administrators, parents, and staff involved in other state funded school projects.

The meaning:

'Meaning' refers to the level of cultural negotiation, which shows a tendency to progress from language and content [changes in 'what' is learned] through environmental and social relationships [changes in how learning is accomplished] to change in values and worldview embodied in the school [re-assessment of 'why' learning is worthwhile]. In other words, if teaching local language [as an element of culture] is a level, the higher level [meaning] is achieving this through practice [indirect learning]. Even a higher level [meaning] is the awareness of the significance and reasons for learning this language and culture. A demonstration of making a beaver pelt for example, attracts students attention. In minutes, a small imagined community is created in the classroom which closely models part of the community outside the school. The implication is that teaching practice in community-based schools may be very different from standard models, because students' imaginations need to be grounded in 'who they are now and where they are going'. Teachers who develop and transmit such teaching styles are in effect re-imagining the school, the process of education, an their relationship to their students.

If community-based education is to survive, it is important to seek maximum 'depth' of 'process' within at least the first two 'contextual boundaries' identified by Stairs. In brief, a community-based school should imagine a community of its own, or in Stairs' terms, to negotiate one (Fettes, 1999).

4.9.5 Daigla's Transformation Model

The previous models all set the basis for establishing indigenous community-based schools. Daigle (1997) outlines a number of criteria to transform conventional traditional schools into indigenous community-based ones. The special **reform measures applied when changing a school from the mainstream pattern to a more community-based institution** can be summarised using the following points:

- Governance approach structures should shift from external to community-based internal ones.
- Programme, methods, goals and structures should shift from consensus to conflict, and from integration to transformation.
- Philosophy of education needs to shift from homogeneity towards liberating.
- School culture must shift from dominant culture to integrative approaches and preservation of local cultures.

- Social, economic and political development needs to be less dependent on external structures to grow self-reliance and self-sufficiency.
- Community as a resource should be seen as inclusionary rather than exclusionary.
- Organisation should be more bottom-up, informal, process-based, locality-centred and proactive; rather than top-down, formal, programmed, institution-centred and reactive.

4.10 Indigenous Community-based Experiences

In the following discussion, a number of indigenous community-based educational experiences are discussed. Although they all refer to places where ethnic and lingual differences were the reason behind the emergence of such a program, and although this is not identically to the situation explored in the present research, as explained in the introduction of this chapter, this enriches the previous theoretical discussions with findings from practical applications and experiences.

4.10.1 Rough Rock School in Arizona - USA

McCarty and Watahomigie introduced this case study in a paper they published jointly in 1999. In the year 1966, Rough Rock leaders signed a contract with the federal government to run their own school. It was the first school in the USA to have a locally elected all-Indian governing board, and the first to teach in and through native language and culture.

The guiding principles of this school were that the community has the right and responsibility to control its own schooling, and that the *Navajo* language and culture should be at the heart of all school programs (Dick & McCarty, 1997).

The way they merged society into the school is interesting. In its early years, the school launched the first **publishing centre** for American Indian curricula, and embarked on a radical course in community-school integration. **Adult education, and arts and crafts enterprise, a laundromat, toy and small furniture factory, a medicine man training project, and many other economic enterprises were organised and operated through the school**. Community members staffed these projects, daily operations were carried out in *Navajo* language, and income generated was redistributed to the community. **Parents and grandparents lived in the school dormitories** and guided students through storytelling and other traditional teachings.

Rough Rock nurtured the **professional development** of local teachers, providing funds for individuals to pursue teaching degrees at regional universities, and bringing university-accredited courses on-site. This was accomplished in spite of the difficulty they faced with fluctuating federal funding which caused devastating instabilities in curriculum, staffing, and academic programmes.

4.10.2 Gaelic-medium Education in Scotland

The demand for Gaelic-medium schools derives from the linguistic initiation work of the playgroup movement on children and their parents. Gaelic-medium schools represent a vital step in founding a new, confident and enterprising generation of Gaels (HIE, 2003).

Gaelic educational provision takes place from nursery through to Higher Grade Gaelic in secondary schools, where Gaelic-medium units cater for nursery and primary pupils, in association with Gaelic Parent and Toddler Groups and Playgroups set up in various areas (CEC, 2003).

In Gaelic-medium education, children have the same learning experiences as in other mainstream schools and follow the same curriculum framework. They have the same opportunities to develop skills and knowledge, and meet and mix with other children. An understanding of Gaelic language is developed through play, conversation and songs (CEC, 2003).

Although children are taught the full curriculum through the medium of Gaelic in the early primary years, English is introduced in the later years so that pupils become totally fluent in both languages, and hence benefit from the intellect-enhancing effect of bilingualism at an early age (HIE, 2003).

Formal education alone is not sufficient for strong linguistic regeneration. Parental and peer encouragements are important supporting factors. Further reinforcement is being achieved through the emergence of a new movement, which involves **the participation of young people in a range of sports, arts and other enjoyable activities through the medium of Gaelic** (HIE, 2003).

Additionally, three Scottish university Celtic departments are evolving new developmental roles and recognise the value of working more closely together and towards a more formal association. It is expected that the emphasis on language

planning, promotion and training will grow to meet the demands of **new Gaelic-based industries** as well as the requirements for Gaelic medium teaching (ibid.).
The development of Gaelic has stimulated a desire among adults to learn the language - a desire likely to be boosted further by a number of factors. These include parents of children attending Gaelic medium education seeking to keep up with their children, the creation of **new career opportunities** where Gaelic is a requirement, the effects of **Gaelic tourism** and the powerful stimulus of **Gaelic television**. It is significant that Scottish television Gaelic programs regularly attract audiences of more than 200,000. This demonstrates that people are willing to commit themselves if effective language acquisition programmes can be provided (HIE, 2003).

The number of Gaelic medium pre-school playgroups, mother and toddler groups and nursery schools in Scotland has grown from four at the inception of the movement in 1983 to about 150 by 1995. The parental demand for Gaelic medium education has taken off with encouraging results, involving 55 primary units and some 1,800 children by 1999 (ibid.).

Education departments are currently seeking additional ways of extending the current Gaelic provision to enable all pupils to gain insight into the Gaelic language and culture (CEC, 2003). A strong demand is anticipated for Gaelic speaking graduates in Gaelic-medium teaching, broadcasting, business studies, development work, tourism and culture, Gaelic arts and specialists in Gaelic language and literature. But the single most serious constraint on rapid growth is the current shortage of trained Gaelic medium teachers (HIE, 2003).

4.10.3 California's Experience - USA

Californian linguist Leanne Hinton (1993) believes that people cannot be simply sent off to a community where their language is not spoken all the time. He suggests implementing **master-apprentice programs** in which native-speaking elders work with younger apprentices over a certain period, collaborating in everyday activities and always communicating in the heritage language (Hinton, 1998).

A relevant approach for oral communication in heritage language is forwarded by Sims (1998). He suggests involving community members in language **learning that is organised around indigenous singing, dancing, playing, eating, storytelling and**

craft-making. Additionally, including posting signs in *Kuark* language provides as good opportunity for using local language.

4.10.4 'School Change Group' in Alaska - USA

In Southeast Alaska, Lipka and Ilutsik founded a school change group *"Ciulistet"*[12], whose objective was to construct indigenous *Yup'ik* curriculum. This group composed of *Yup'ik* teachers, teacher aides, and elders who work collaboratively on the co-creation of indigenous curriculum.

Over several years the group has formalised an indigenous knowledge base in mathematics and science. For example, the *Ciulistet* researched the mathematical and scientific concepts embedded in everyday fish camp experiences, this being the major local activity. By video-taping fish camp life and analysing the video tapes, the group was able to articulate an indigenous knowledge base that included mathematics and science as well as the complex social relationships intrinsic to *Yup'ik* subsistence. *Yup'ik* elders have also provided curricular content on hunting, trapping, weather forecasting, the geometry of parka-making, and story-knifing[13] (Illutsik, 1994; Lipka, 1994).

Post experience assessment confirms that the different approaches adopted have been internalised in a positive way with respect to educators. They overcame their feeling of inferiority by valuing *Yup'ik* language and knowledge and providing an opportunity for elders and the school community to visualise the possible ways in which everyday tasks and knowledge can be basis for learning in school (McCarty & Watahomigie, 1999).

4.10.5 Norway's Experience

This can be seen as a European version of the *Ciulistet* achievement. After the introduction of instruction in Northern *Sámi* as a first language in Norway around the end of 1960s, the teachers have put a great deal of effort into producing textbooks in *Sámi*. Developing teaching methods, and giving the curriculum more *Sámi* content than was previously the case. Today there is a satisfactory progression for pupils who have *Sámi* as a first language, and the number of pupils who choose this curriculum is steadily increasing. In such a curriculum all instruction in subject matter is in *Sámi* (Todal, 1999).

[12] Literally meaning Teacher Leaders.

4.11 Conclusion

Culture is what we think of our civilisation. Culture has to interpret the civilisation that exists and not one that has ceased to exist or never existed. Education should respond to social and cultural transformation, being a cultural instrument that ought to conserve, transmit and renew culture. 'Civilisation', 'culture' and 'education' are connected in such a way that none of which can be healthy unless all the three are in proper relation to one another. The essential principle for the selection of material and curricula must be relevance, rather than contemporariety. Knowledge is dead unless it is instrumental in interpreting the world of active experience, and our place in it.

If a vision of education can be developed that celebrates spirituality, diversity, service and respect, then every teacher and administrator in indigenous schools will have an alternative yardstick against which they measure their practice and their objectives. This is no less than a process of cultural negotiation, a building of cycles of community, within the context of nation, continent, and globe.

There is a difference between what 'community' and 'society' means. Community is ruled by natural will, by the acceptance and unconscious evolutionary transformation of the inherited mode of thought and perception of the forefathers. Society is the product of rational will, in which thinking has gained predominance and come to be the directing agent. It is to be confirmed that all individuals act according to both types in varying degrees, they are both found interwoven in all kinds of human associations.

Community consists of connections between expressed thought and lived experience, which is a dynamic cyclical relationship. It is a definition focused neither on kinship, nor on place, nor on mind, but on the relationships that they exemplify.

Education has a crucial role to play in fostering the process of community imagination, which is a corner stone in any community development. There is evidence from Egyptian history that the pattern of '*Gemeinschaft* of kinship' existed until the introduction of 'modernisation', which shifted the interest towards 'state' and 'society' rather than 'community'. This shift can be seen as trying to promote '*Gemeinschaft* of mind', which when unsuccessful remains only at the level of '*Gemeinschaft* of locality. The role of education and media should be directed towards promoting '*Gemeinschaft* of kinship' which is already a living component under the surface of the Egyptian culture.

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[13] A traditional storytelling form in the snow or mud using knife and specific symbols to represent various characters.

Communities should apply only 'appropriate technologies' in development programs, which concentrate on providing modifications to existing traditional technology.
Placing an emphasis on indigenous education must not be interpreted as purely local and closed. Balance should be maintained between an awareness of the potential for evolving cultural identities to provide a rich range of alternatives, and the indigenisation that reaches cultural isolation and bans people from exchanging benefits and experiences with other cultures. Native educators, teachers, administrators and curriculum developers should attempt to benefit from non-native models to generate the creativity that is necessary for the development of native education.

Ecology always lies in the background of culture. Nature is a carrier of both objective and subjective values. This makes culture and nature strongly correlated. Thus, return to nature should not be interpreted as a passive action or call for backwardness. All human acts merely shift natural things around. There is nothing unnatural about computers or rockets for example; they are assemblages of natural things operating under natural laws. All that is required is applied labouring and conscious shifts with care to produce no, or at least minimal, harm.

The decline of local cultures and languages is associated with the domination of non-local ones. This began with colonisation then continued through nation-sate governments controlling and directing mass education, and reflecting their specific linguistic, cultural and educational values and practices as dominant groups, towards a more political nationalism. The difficulty is the integration of social cohesion, while recognising and incorporating ethnic, linguistic and cultural diversity within the nation state. This phenomenon can be depicted as centripetal and centrifugal tendencies.

The difficulty with non-indigenous models is that students are expected to master material that is often irrelevant and unfamiliar to them and their parents, in a language that they did not speak at home and learned only when they came to school, and in a style that often was at odds with their conventions.
The effectiveness of classroom instruction was reported to be severely reduced due to cultural and linguistic differences between teachers and the children, as well as the discontinuity between native home environment and the school. Another difficulty associated with non-native teachers is the difference in cultural expectations, with

regard to listening behaviour and indicators of attention, which manifest themselves as differences in perspectives, expectations, understandings and interpretations.
The challenge is to design, implement, supervise and adequately fund systems that meet educational needs without discarding traditional education, knowledge useful for subsistence, cultural vigour and self-confidence.

The expansion of the school into the outer world and the penetration of the outer world into the school are complementary processes, which are both necessary to achieve reality and effectiveness in education. Knowledge should be seen as a living thing which people build together. Local communities grow in self-respect and acquire genuine political influence at the same time as they take greater responsibility for their schools.
Dewey favours viewing the school as a microcosm. A school which is isolated from the world cannot faithfully present an image of the world, and therefore cannot satisfy this approach initiated by Dewey. The connection between the school and the life of the rest of the community is never so convincing as when work done in the school is of direct value to the community. Examples discussed in this chapter show how school buildings might respond to this.

Having the family as a basic unit of the community, parents have a crucial role to play in their children's education. This role should be balanced, neither oppressive nor spoiling, nor even ignoring.
Children's participation is not only important in the creation of a product that is more suitable for the users. It becomes more effective in terms of children's sense of belonging, responsibility, intellectual promotion and self-respect. In terms of Hart's model, it is recommended that 'child initiated, shared decision with adults' be the adopted level. Child-designed but involving adults in key roles towards achieving objectives.

Relationships inside the school are the first step towards community interrelations. This should be catered for in terms of curriculum, pedagogy, testing, assessment, management, and school design. The provision of internal and external gathering spaces should foster this.

Participation should be extended to school-building design, construction, use, maintenance, conservation and renovation. This includes teachers, pupils, administrators, and all community members.

School-shift multiplicity is a current problem in Egypt. In addition to its influence on the amount of knowledge individual pupils attain, it is against the community coherence as depicted by the endogenous model. If children are allowed such a limited time in school, they are unlikely to create coherent relationship with colleagues, teachers and environment. They are also unlikely to have time for undertaking any other learning activities rather than the formal in-class teaching. When the school premise is occupied until late, a number of community activities may not be possible. The elimination of multiple shifts should foster better community participation and coherence.

Everybody in the community has a role to fulfil regarding the school. As discussed under the civic capacity approach, this includes the community-based sector, political partners, corporate sector, education unions and syndicates, non-profit foundations, and all organisations and individuals.

Local communities should have the ability to direct their cultural and educational practices on their own terms, rather than the terms set by others. When schools become organic to their local indigenous communities, such communities are able to insist on the insertion of their own values into the school's organisation, management, pedagogy, curriculum, and modes of evaluation.

The reason for the limited success of reformist approaches is the fundamental incompatibility between the culture of formal schooling, and the project of developing an organic dynamic relationship with local forms of life. It is a question of reaching the proper balance between native and non-native content among and within individuals associated with education. It is recommended that schooling in indigenous communities should follow the reformist model and inter-activist attitude to allow recognition of the significance of imagination as discussed above.

From the discussed models, one may elicit the following points as key features of a model that would support endogenous development of Egyptian communities:

a. Indigenous dimensions:

- Social, economic and political developments are to reduce dependence on external structures and to grow self-reliance and self-sufficiency.

- The mediation of local socio-economic difficulties through education.
- Shift in philosophy of education from the homogeneity of one dominant culture, towards more liberating approaches, incorporating and promoting local cultures. In other words, all school programs, methods, goals and structures should shift from consensus to conflict, and from integration to transformation.
- School should be available locally not involving extended travel, improving access to formal schooling, and maintaining contact with traditional education.
- Education should not monopolise pupils' time, but should relate to traditional practices and cultures.
- Education should be principally conducted in the local language, providing adequate training on other languages.
- Curriculum content should recognise the local culture, as well as its significance in improving and developing the local environment.
- The creation of new career opportunities where local language is a requirement can promote further desire for local language acquisition.
- Television programmes can effectively promote people's willingness to learn local languages if provided.
- Teaching modern and up-to-date relevant curricula, within the national guidelines set by the state, assuming that it is not forcing the choice of a certain culture over another, to provide a distinctively local educational environment.
- Schools should use local personnel as teachers, providing them with adequate training, back up and supervision.
- Balance is required between an awareness of the potential of evolving cultural identities, and cultural isolation that bans people from exchanging benefits and experiences with other cultures.

b. Sharing dimensions:

- There should be a two-way communication between home and school.
- Community as a resource should be seen as inclusionary rather than exclusionary.
- In Stairs' terms, 'contextual' breadth of involved community structures is to be extended.
- Collegial and collaborative relations among staff and parents should be promoted.
- Schools should employ culturally preferred forms of pedagogy, like peer tutoring and collaborative teaching, parallel with general schooling methods.

- School organisation needs to be more bottom-up, informal, process-based, locality-centred, community-based, internal and proactive; rather than top-down, formal, programmed, institution-centred, external and reactive.
- Community involvement must take place in all phases of planning and implementation.
- Local political leadership and school management should have sincere willingness to ease links between staff and community. This may come from administrative support, funding and on-going training for staff and community to strengthen such partnership.
- Control of the educational system should be in the hands of the locals, enabling a greater autonomy over key decision-making in schooling administration, curriculum, pedagogy ... etc.

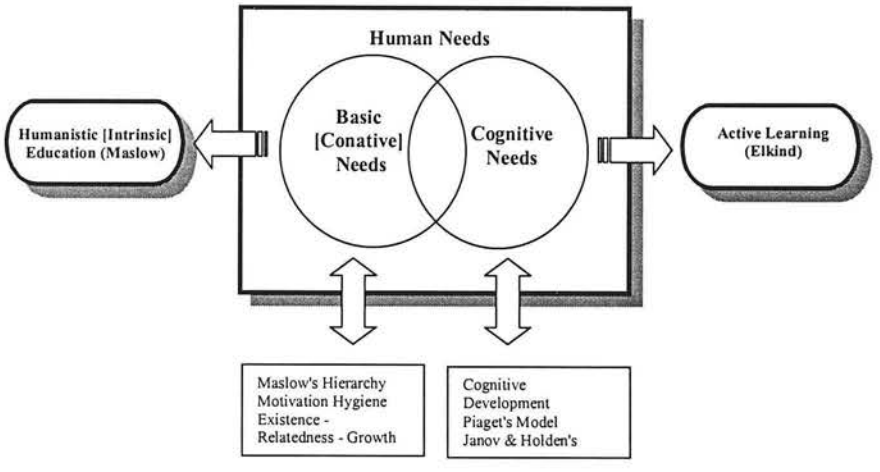
Indigenous schools should not directly reflect either formal educational ideals or local community, but should be dealt with as new cultural creations. A school becomes a forum for negotiation among surrounding cultures, between itself and the community, and the personal negotiation of students with their cultural worlds, including the school culture.

We should be aware that there are potential limits of such initiatives. However, while uncritical of the limits of and potential weaknesses of such programmes, we shall be committed to their promotion and extension.

After all, it is clear that education, while important, is not the whole answer. But that does not mean that education does not have an important part to play - particularly if it involves indigenous communities directly in the provision and management of education. Education alone cannot compensate for society. Thus, the development of local education needs to be situated clearly within the much wider social, economic and political framework. The case studies discussed demonstrate that much can be accomplished by small groups with great commitment. The challenge is how to expand these efforts to wider contexts and higher levels.

Having discussed the strategic level of education that responds to the requirements of endogenous development, that being indigenous community-based education, the following chapter will address the individual dimensions of education required achieving the same goal.

CHAPTER FIVE



THE INDIVIDUAL DIMENSION OF LEARNING

The Individual Dimension of Learning

5.1 Introduction

Having, in the previous chapter, addressed the educational settings needed to support the model of endogenous development at the community level, it is now paramount to know how to place learning and education at the level of the individual. This will ensure that the education we provide is correctly directed and applied in a way that appeals to individual constructs, resulting in the desired outcomes.

Recognising the significance of the special nature of children's psychology, J. J. Rousseau quotes:

> *"Nature would have children be children before they are men. If we try to invert this order we shall produce forced fruit, immature and flavourless, fruit that rots before it can ripen ... Childhood, has its own way of thinking, seeing and feeling"* (Rousseau in: Kahne, 1996: p. 53).

This chapter starts by discussing human needs and motivations under '5.2' with particular emphases on Maslow's model[1] as a leading theory in this area. As this model classifies human needs into basic and cognitive, a discussion of cognitive development paradigms, with thorough demonstration to Elkind's comprehensive model is given in '5.6'. Following that in '5.7. Humanistic Education', comes a discussion of the model that Maslow forwards in response to his findings on basic human needs. Finally, other architectural aspects of the learning environment are discussed under '5.8' to assist the analysis of the case-study schools provided in following sections of the thesis.

[1] As in the previous chapter, term 'model' throughout this chapter is used as to indicate an idea, way of thinking, view, approach, representation, version ... etc. but not a structured model with manifested

5.2 Human Needs and Motivation

The following discussion shall address needs and motivational theories, with particular emphasis on Maslow's model. This will help in the understanding of how these needs interrelate within the context of human nature and how education should be placed in relation to such framework. Maslow's model suggests that human needs follow a hierarchical order, in which the individual's most elemental needs are to be met first. When these are satisfied new higher needs emerge, and so on. Satisfied needs, in this view, become no longer motivators. It classifies the human needs into two main categories those are **'basic- conative needs'** and **'cognitive needs'** (Maslow, 1987).

a. Basic Needs

As for the basic [also named 'conative'] needs, Maslow set a five-step hierarchy that starts at the **'physiological needs'** relevant to maintaining a constant normal state of blood stream, like preventing hunger and thirst for example. Following on from this level are **'safety needs'** including security; stability; protection; freedom from fear, anxiety and chaos; need for order, law and limits ... etc.

Once these are fulfilled, the third level of **'belonging and love needs'** emerges. This involves giving and receiving affection. When these needs are unsatisfied, a person will feel keenly the absence of friends, mates, or children, so it is about avoiding loneliness, rejection, friendlessness and rootlessness. It is, in brief, to do with personal relationships, the sense of belonging and rootedness. The next level is the **'need to esteem and to be esteemed'**. This is about people's need for a high evaluation of themselves, for self-respect or self-esteem, and for the esteem of others. These needs are classified into two categories:

1. The desire for the strength, achievement, adequacy, mastery, competence, and confidence in the face of the world.
2. The desire for prestige, glory, dominance, recognition, attention, importance, and appreciation over others.

Upsetting these needs produces feelings of inferiority, weakness, and helplessness.

Finally at the top of this hierarchy comes **'self-actualisation'**, to which Maslow refers as people's desire for self-fulfilment, namely, the tendency for them to become actualised in what they are potentially, and the desire to become everything that one is capable of becoming.

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components, mapping, matrixes, equations and hierarchies, as in the sense of physical sciences, for example.

Following Maslow's model, "Motivation - Hygiene Theory"[2] was established while developing a study about adults' workplaces. Aguirre (1999) explains it as reducing Maslow's hierarchical levels into two, namely 'hygiene factors' and 'motivation factors'. '**Hygiene factors**' if responded to, are thought to **reduce dissatisfaction** but not to actually lead to satisfaction, where if they were not, they are likely to represent bad feelings that are [in this example] related to workplace environment and work conditions. On the other hand, '**motivation factors**' are the ones believed to really **lead to satisfaction**, similar to Maslow's proposed top level of needs. These address good feelings associated with job motivators, what responds to psychological growth needs.
However, many behaviourists see such a model to be flexible and broad enough to apply to many other contexts [e.g. teachers and students], rather than being solely limited to adult workplaces' interpretation.
Sergiovanni (1967) applied Motivation-Hygiene Theory to teachers, and found motivation factors to work both ways, that teacher's motivation was similarly affected by both satisfying and dissatisfying aspects that are linked to achievement and recognition. An example he derives in this context was linked to poor interpersonal relationships with students, colleagues, or parents; a factor that was found to contribute significantly to teachers' dissatisfaction.

Existence – Relatedness – Growth [ERG] Theory is a recent development derived from the previous two, currently receiving high levels of recognition among behavioural researchers. It places human needs into three broad categories, including:

1) Existence: food and shelter.
2) Relatedness: concerns about interpersonal relations with others.
3) Growth: individuals' core desire to achieve their full potentials.

These **categories do not necessarily occur in sequence as in Maslow's model**, but could be experienced in pairs or even all simultaneously. Another divergent view, with Maslow's hypothesis of satisfied desires invalidity to act as motivators, Alderfer sees that **individuals can be reduced to lower need-categories when higher ones are continually frustrated** (Alderfer, 1972). This is of strong relevance to the Egyptian context discussed in this thesis, in that people's expectations from education for example, are considerably reduced due to similar continual frustrations among different periods of recent history. Moreover, the achievement of highest levels of 'growth' could

[2] First introduced by F. Herzberg, B. Mauser, and B. Snydermann.

emerge from long deprivation of more basic ones, as in the emancipatory movements for examples.

The ERG Theory has de-framed human needs from the hierarchical model initiated by Maslow, and confirmed the possibility that different need-categories can be experienced simultaneously.

b. Cognitive Needs

Cognitive needs include the **desire to know and understand**; and the **aesthetic needs**. The desire to know and the desire to understand both form a hierarchy similar to the above, in that the first is prepotent over the latter. Whereas for the aesthetic needs, which come after learning and understanding in this hierarchy, there is evidence that people get sick [in special ways] from ugliness, and are cured by beautiful surroundings. This is seen almost universally in all cultures and ages (Maslow, 1987).

However, we must guard ourselves against the tendency to separate cognitive desires from basic needs. The desire to know and to understand is as much a personality need as a basic need. Acquiring knowledge and systematising the universe, for example, have been considered as techniques for the achievement of basic safety, or for the intelligent person, expressions of self-actualisation**. The two hierarchies are interrelated rather than dichotomised**. Other examples such as the need for order, closure, symmetry and completion of act can hardly be classified under either category. This confirms the overlapping nature of both hierarchies.

Maslow confirms that **cognitive capacities** [perceptual, intellectual and learning] are a set of adjustive tools, which **are among functions for the satisfaction of our basic needs**. Thus, it is clear that any danger to them, any deprivation or blocking of their free use, must also be threatening to basic needs themselves.

Before introducing Maslow's model of 'humanistic education' which he considers to be the right response to basic needs, the following discussion will address learning and cognitive capacities and how they may be developed. Their terminology will also be explained and some of their relevant models addressed in relation to the research context, and as basis for dealing with the cognitive needs.

5.3 Cognitive Development

Discussing different models of cognitive development requires us to first explain 'learning' as a prime interest of this research, then forward a brief explanation regarding the major components of the cognitive development processes.

Reinecke (2000) defines 'learning' simply as 'the process of knowledge formation, where knowledge is formed through the synthesis of environmental stimuli, perception and action'. Piaget (1972) suggested that 'knowledge formation is the strong link between action and perception', e.g. closing one's eye in re-action to bright light. On another hand, Elkind (1974) built on the assumption that the transformation of an experienced stimulus can be achieved either by modifying its properties or position; or by enriching the object with new properties or relationships through a system of classification, ordering, and measuring. He further defined learning as 'the act of perception that gives a layer of meaning to an experience'.

Bloomer (1976) suggests that the mental processes involved in human cognition should follow a simple-to-complex hierarchy, as illustrated in figure (5-1) below.

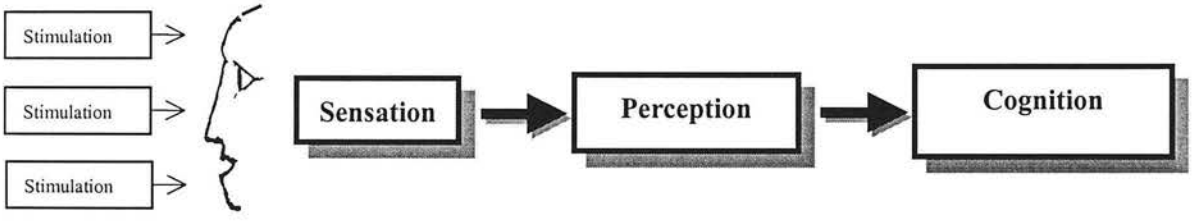

Figure (5-1) Bloomer's proposed hierarchy of mental processing (Author).

To him, the very first step and the least complex process in this model is **'sensation'**, which takes place while individuals are unaware of it occurring. For example one does not feel the eardrum vibrating when s/he hears sounds. Thus, people are not aware of sensations themselves, but rather of the meaningful information they represent in our consciousness (Gibson, 1969).

'Perception' is a relatively more complex mental process achieved through the human senses [i.e. vision, hearing, touching, smelling and taste], which takes place with the individual being consciously aware of it. It is the psychological function that enables the individual to collect sensory stimulation into organised coherent experiences (ibid.). It is the attempt to understand the world of things and people, which depends on the nature of the observer (Hochberg, 1964). Thus, the differences in the ways predictable

sensations are **perceived**, can likely cause the same sensation to be experienced as different is the significance of meaning.

'Cognition' is a broad term that includes perception, intelligence and problem solving. It relates to experience and psychological processes whereby human beings obtain, store, evaluate, categorise, and operate upon information. It includes perceiving, remembering, deciding, and other types of psychological processes (Neisser, 1976).

In an abstract comparison of their nature, perception is believed to be the process of collecting information, where cognition is the process of encoding it (Zoabi, 1993). Cognition and perception should together be seen as a unitary human process, which leads the elementary acquisition of sensory information to its essence or association with meaning. They are consecutive activities in a same cycle, which need and affect one other (Abdalla, 1998).

'Cognitive development' to many behaviourists and psychologists is an area that addresses perceptual development, changes in memory functions during human life, development of thinking and intelligence, models of which are discussed hereafter.

5.4 Piaget's Model

Cognitive development theorists can usually be categorised into two principal groups. The first concentrates mainly on the quantitative development of mind, addressing the changes in the amount of knowledge available, and the efficiency with which such knowledge is used in thinking. The other group is thought to adopt a deeper school of thought, which recognises concrete qualitative changes in thinking. Amongst those or maybe the foremost member of them is Jean Piaget[3], whose contribution to cognitive development studies is regarded as conscious of both quantitative and qualitative dimensions (Ujam, 1987).

5.4.1 The Model

In this model, Piaget assumed that cognition exhibits two processes, namely **'assimilation'**[4] and **'accommodation'**. 'Assimilation' meant to him, interpreting the external objects and events in one's own favoured way of thinking, i.e. adapting external stimuli to one's internal mental structure. Where he referred to 'accommodation' as the converse complementary process, in which mental structures

[3] See also: Jean Piaget: Selected Works, (1997) London: Routledge.

[4] It is to be noted that 'assimilation' is frequently referred to as 'adaptation' in some relevant literature.

should adapt to these stimuli, or in other words, to take cognitive account of the various properties and relationships of external objects and events (Ujam, 1987).

This example explains the above sequence. If a child is to jump over a little stream, he may first think of trying to find an easier way to cross, then decides to force himself to do it, this is adaptation. Afterwards, he starts repeating the action multiple times to improve his ability and to develop more complicated scenarios, namely jumping over other streams after having reached a level of mastery of the process, i.e. achieving accommodation (Wild, 1990).

5.4.2 Educational Application

Piaget paid notable attention to educational psychology, children's conception and cognitive development. In a selection of his works published in 1997, Piaget confirmed that taking account of children's nature and psychology is of no less importance than the material they are taught. Thus, teaching methods should not work against a child's nature, but alternatively should awaken all of their latent abilities through which the individual may serve society, and promote its development.

Piaget denied the common assumption that children have a similar thought-structure to that of adults, and that education is the thing that turns them into full members of their societies by filling the 'empty vessels' with the right content. He argued that both adults and children are active beings, who share similar functions in spite of their different intellectual and moral structures. In this regard, he claimed that logical reasoning begins to take shape at the age of ten to eleven, and only being completely formed at thirteen or fourteen.

He advocated that education should be directed towards full development of human personality, and promoting individual's autonomy and encouraging respect for others'. Education should not stress the amount of knowledge provided as this can easily be forgotten if not used for a while. Quality of life is what really matters. This can be fostered by involving children in thinking and discovering their own ways of learning, through free activities and experiments, experiencing repeated functions with fresh new contexts. Moreover, he finds it impossible to educate people without allowing them to discover truth themselves. They should be able to abstract and to invent their means of understanding, rather than following pre-set paths, i.e. to create new ideas rather than

recycle pre-designed ones (Piaget et al., 1932). This matches Maslow's ideas of self-actualisation, which are discussed in further details under '5.6 Humanistic Education' later in this chapter.

Another perspective Piaget adopted is 'play therapy', in which he addressed two types of play. The first is **'symbolic play'**, which gains its significance from freeing the child's inner pressures caused by undesirable experiences. This is thought to develop through taking false positions to submit authority [e.g. a doctor who forcibly injects a doll]. Such play should be encouraged, watched and carefully evaluated by adults to reveal details of their children's lives (Piaget, 1951).

Schaefer and Berger (1997) confirm play as the highest form of intellectual exercise for children, and state:

> *"Play is serious work for children. The child develops his intelligence, his creativity through play. Play contains the outline of his human existence"*
> (in: Reinecke, 2000: p. 39)

The above quotation strongly relates to the second type of play Piaget (1951) highlights. Less involved with feelings, this is named **'functional play'**, an example of which is the crossing of the river scenario detailed above. Piaget emphasises that schools should necessarily get use of play as a teaching aid, rather than confining it to break times. This type of play should not be over organised by adults, so as not to loose its core meaning as a self-regulated activity for children. Titman (1994) suggests that fixed play equipment bought from ironmonger catalogues express little regard to children understands of environmental experience. Generally, the most successful play-equipment is that which allows children to adapt it, to make new meanings around it, and change its form and use, either in the real sense or at least in their imagination. The greater the potential of the equipment or item to be changed or manipulated the better. For example, a big tyre from a tractor can sometimes be a den, or a spaceship ... etc. as seen in figure (5-2) below. Reinecke (2000) believes this to enhance the ability of a child to exercise responsibility for their environment and understand the meaning behind their actions.

Figure (5-2) An example of play equipment encouraging children's imagination and creativity in school grounds (Titman, 1994) © WWF UK & Learning Through Landscape.

Piaget's ideas about education and cognitive development are crystallised and developed in Elkind's model, which is discussed thoroughly in '5.6' below.

In relation to endogenous development and applying the two types of play mentioned above, rather than creating false environments and fake games that belong to different backgrounds and cultures, it would be more appropriate to use local vocabulary stemming from the child's local environment, to grow with its values, and hence be able to interact with and respond to its variables in the future.

5.5 Janov and Holden's Model

This model was developed as part of the 'Primal Therapy Theory', which was originally introduced by A. Janov and E. M. Holden in the 1970's. Referring to different stages of cognitive development, they suggested that human emotional experiences are formed in childhood and even prior to birth. The following discussion will first cover these stages then move on to describe the types of therapy this theoretical concept puts forward, and finally will show how it can benefit educational practice.

5.5.1 The Model

With reference to this theory, Wild (1990) suggested the following illustration figure (5-3) of the three human brain structures with their functions and levels of consciousness, being discussed in further details hereafter.

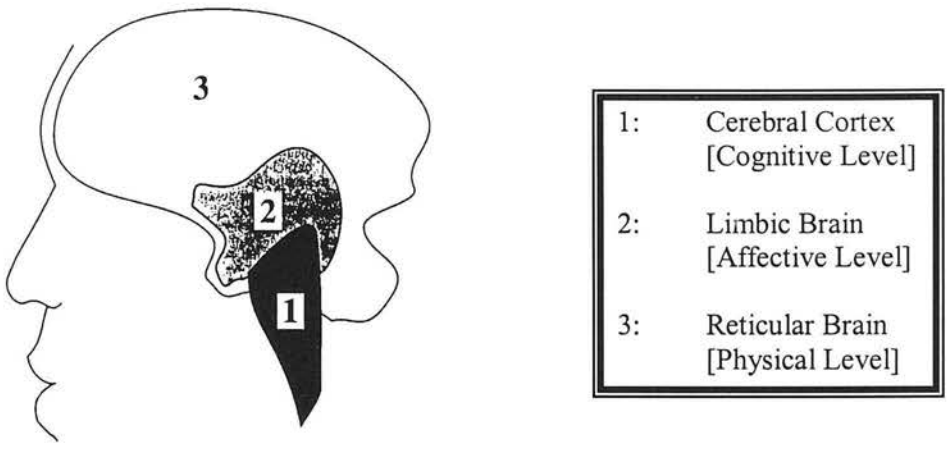

Figure (5-3) Development of brain structures and levels of consciousness (Wild, 1990).

Janov and Holden (1977) argued that human experience is formed in three consecutive brain structures. The oldest of these is the 'reticular brain' that we share with insect kingdom, and that is fully formed in the embryonic stage [from the sixth pregnancy week], to register all the experiences in the mother's womb, and to carry out essential life functions [e.g. breathing, blood circulation, digestion ... etc.], being principally affected by the mother's physical and emotional life. By the completion of this structure development, the new organism issues the first 'willed' order [i.e. birth].

The second brain structure is common amongst humans and higher mammals, namely the 'limbic brain'. It is responsible for registering all experiences and co-ordinating them with previous ones, thus uniting the three processes of: feeling, sensory impression and movement. This is believed to continue growth until the child's seventh or eighth year.

From the age of seven to fourteen, a unique human brain structure, the 'cerebral cortex' witnesses its most intensive development. The cerebral cortex is responsible for thinking, abstraction, speech, symbolism, logic conclusion and similar intellectual processes. This highlights how important it is to provide appropriate education at this critical stage of the child's life.

5.5.2 Educational Application

Building on the above, and referring to the fact that every organism has vital physical and emotional needs to be fulfilled, which if unsatisfied would inevitably cause pain and

increased levels of hormonal secretions, raised heart rate, or elevated body temperatures ... etc. If such pain lasts, the organism protects itself by **blocking off pain signals** coming into the brain, so that the organism won't feel discomfort despite the need remaining unsatisfied. Janov and Holden (1977) presumed the accumulation of such unmet needs and blocked pains to form a hidden pool of pain. The organism appears to live undisturbed where the unmet needs are still present, pressing the individual to seek their original fulfilment, with the potential of being awakened in any relevant situation. Emerging from this point came their concept of 'primal therapy'. Primal therapy is intended to **unblock** the hidden pains [old blockages] and set these latent energies free, through crying, talking or facing and treating the childhood-rooted negative experience, thus, diminishing the basic reason for the pain.

Within this context, their expectation of educational programs was associated with real preparedness to fulfil the children needs and to avoid creating any new blockages. Moreover, they argued that only parents [and teachers] who have undergone primal therapy would be most capable to look after their children adequately.

5.6 Elkind's Model

Davis Elkind has developed a comprehensive model that builds on Piaget's ideas as addressed above. This model is strongly supportive of the general theme of this thesis, and for this reason it will be studied in detail. The following discussion introduces Elkind's model of cognitive development and explores his model of learning i.e. 'active learning'. Educational application of Elkind's model and its associated environmental requirements will be addressed thereafter, including examples of schools applying his ideas.

5.6.1 Cognitive Development

David Elkind (1974) suggests that the child is an organic unit whose experiences and perception of the world should be valid and respected. This organic unit undergoes continual transformations, caused and shaped by interaction with his environment. In such transformations, there should always be continually changing adjustments and different states of equilibrium, resulting in new understandings.

The following example expresses his view of transformation in terms of Piaget's 'adaptation – accommodation model'. A new born baby transforms from 'adaptation'

stage where he learns how to obtain food from his mother, to 'accommodate' the same suction process to things other than the mother's breast. Through this process the baby learns and understands new possibilities for using the mouth as well as acquiring knowledge about different objects, materials, textures and differentiating them from one another.

After attaining this equilibrium [between different things] the organic structure reaches a new equilibrium with the surroundings. In terms of our previous example: after each stage of growth the organism attains new levels of adaptation and accommodation, i.e. discovering that the object they had identified when their mouth touched it is the same their eyes see, is the same their nose smells for example ... etc. Thus, various patterns become connected.

Elkind named the above and most primitive stage the **'motor stage'**, and assumed it to be followed by the **'pre-operational'** stage characteristic of the age two to seven. This new stage witnesses the use of speech and creating symbols. This highlights the importance of free fantasy play in this stage, in letting out the child's abilities to create symbols, and more importantly to express, through play the things that trouble them and integrate it with their life.

In other words, if a child suffers some nightmares, the elements of these nightmares are usually witches and fairies for example. Thus, his play vocabulary and toys become inseparable form his own self and become integrated to all be part of one and the same being. This stage is known to be associated with eccentric egocentricity, where children need the security of doing things within the framework of certain rituals, until they gradually learn to generalise them to other practices and situations.

Following this comes the **'operational stage'** spanning between seven [or eight] and twelve years of age, coinciding with primary schooling age. Elkind named the after-twelve stage as **'formal operational'**, when the individual starts moving towards puberty. The following points should outline Elkind's assumptions of the characteristic changes associated with the operational stage:

- The child starts to comprehend situations in which multiple factors might act simultaneously.
- The concepts of quantity, volume, weight and measures generally are assimilated at this stage, reaching their best when accompanied by tangible experimentation; unlike symbols that, if forced during this stage [whatever their level of simplicity and attraction is] would be unlikely to result in the desired level of attainment.

- Substituting different factors and comparing results.
- Learning to mix and separate.
- Learning to write down more precise answers to specific questions.
- Expressing limited ability to verbalise logical conclusions.
- Inventing rules to co-ordinate the child's experiences in a comprehensible whole, and evolving methods to be continually compared against the surroundings, until reaching new desired states of equilibrium between the individual and their environment. In other words, adapting personal behaviour to different situations.

The above demonstration shows that **this stage of human life witnesses extremely crucial development. If appropriate education was thoughtfully provided at this stage children are likely to activate and enhance their genuine potentials**. This matches Maslow's ideas of education as means to accomplish self-actualisation, as discussed later in this chapter. **Being the stage that witnesses such significant development, the present research is confined to primary schooling.**

Elkind's model of the stages of a child's cognitive development together with their most characteristic changes can be described graphically in the following figure (5-4).

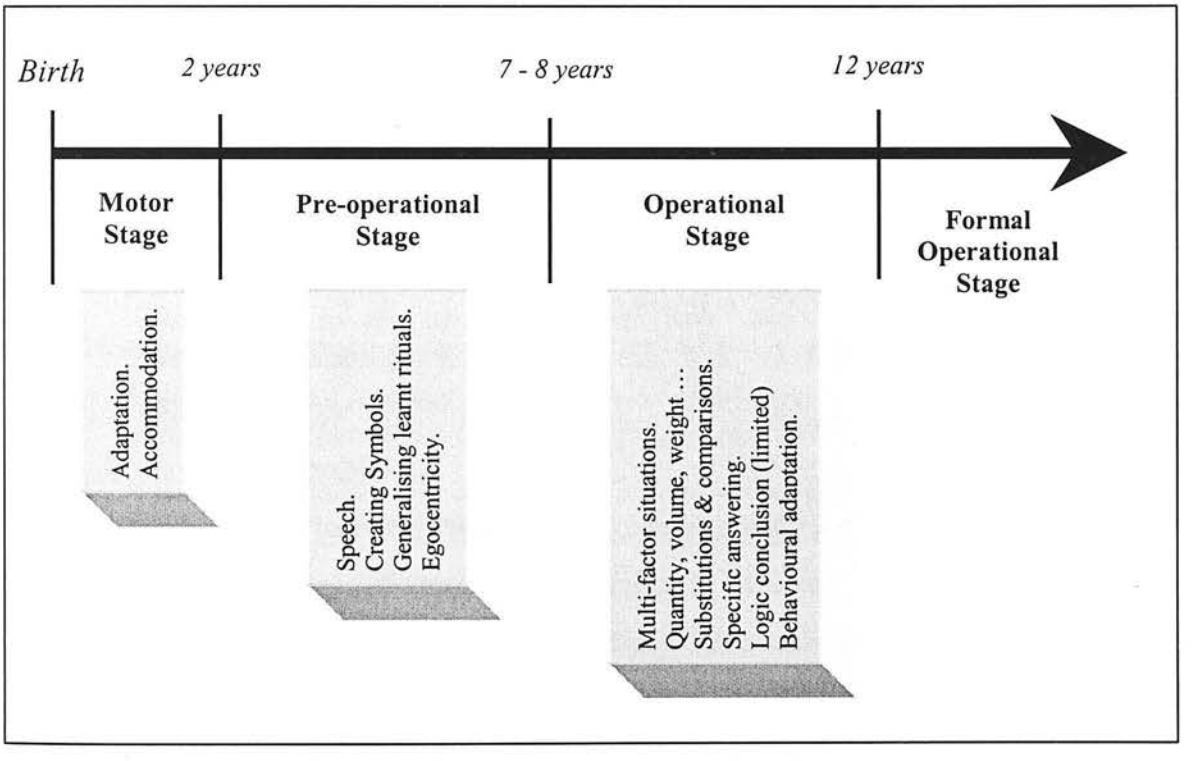

Figure (5-4) Elkind's model of child's stages of cognitive development (Author).

5.6.2 Active Learning

Having discussed a variety of perspectives regarding how human cognitive abilities develop, the following discussion introduces Elkind's model of active learning (1974),

based on his model of cognitive development, and of strong relevance to the ideas of Piaget.

'Active learning' is suggested to have benefited from the concepts of 'experiential education', which emerged in Denmark in 1864. The defeat of Denmark by the Prussians in 1864, made the Danish people seek educational reform, aiming at teaching young Danes to learn, inquire and think for themselves. The basics of this education were:

> *"to build on ones experience, learn from experience, be proud of ones* ***native culture****, the* ***spoken living word was better than dead books, learn from each other****, respect and* ***gain knowledge of one's own land and the environment.***" (Takemoto, 1992 in Reinecke, 2000: p. 41)

Boud et al. (1997) set the basic principles of experiential learning as related to the experience of place. They believed place experience to be the foundation, and the stimulus for learning. Learners actively construct their experience, and approach each event with a set of expectations, which attunes them to some outcomes, and makes them less sensitive to others. Learning though, is a holistic process that is culturally and socially constructed, and is consequently influenced by the socio-economical context in which it occurs[5].

Blessing et. al highlight the assumptions governing experiential education, which applies to active learning as:

> *"With environmental experience, the issue of knowledge transmission takes on a lower priority compared to the use of time and the space to enable personal relationships to the environment to form" this use of the space through "movement, play, creative organisation and other modes of expression" can become "a way to digest experience, to develop new ideas, and to connect the personality to her environment"* (Blessing et al., 1997: p. 9 - In: Reinecke, 2000)

In relation to active learning, Wild (1990) suggests that parents usually worry about ensuring the progress of their children from 'activity' to 'abstraction'. Many educationalists respond to this by emphasising the necessity of artificial acceleration of 'thinking', not to lag children behind 'desirable intelligence levels', the thing that parents usually equate with symbolising capabilities. This does not imply that pushing

[5] Example applications of this are in the work of Jens Jenson in America 1935, and in Frank Lloyd Wright's Taliesin. Dewey, Montessori and others have established experiential education amongst schoolchildren. Currently, there are several centres in Germany for example, which aim at providing a rich structured environment containing a diversity of unstructured natural material, to afford contact, play and invite activity of all kinds. Examples of these centres are: *Okezentrum and Britzer Garten* in Berlin,

children hard or instructing them how to 'think' is the right way to go, but rather encourages exposing them to contacts and activities that allow them to abstract and form their own understanding of reality. Just as concern to nourish children adequately makes us offer them healthy food, but does not lead us to teaching them how to digest it.

However, Elkind (1974) described 'active learning' in regard to three processes geared towards fostering children's understanding. The first is '**operative learning**'. This comes through **spontaneous experimental activity** using a wide variety of tangible materials. The difficulties of using each of these materials should be overcome by the child with the least amount of adult interference, [except for suitable familiarising introduction] to foster the 'marrow-formation' of the child's brain and develop the structures associated with abstraction.

Operative learning occurs only when a child interacts in an independent manner within a variety of different life situations and is allowed to experiment freely with tangible elements. Joy and pain accompanying this process activate the whole sensory utilities of the body towards this process of discovery. **Operative learning does not involve learning from anyone else, it is pure self-discovery**. The child engages his faculties of understanding and the ability to apply the intelligence of perceiving and analysing to address problems (Reinecke, 2000).

Rintoul and Thorne (1975) suggest that working with concrete material helps improve intellectual capabilities, particularly in the case of primary school-children, and the younger the child is, the more concrete the materials needed.

The other relevant process is '**figurative learning**', which relates to what a child **inherits, imitation, memory training, speech, manners and customs**. This is more meaningful when considered in parallel with sound 'operative learning', where a desirable balance between what a child inherits and what he discovers himself is likely to take place. However, this does not ignore forgetfulness and distortions that might be associated with excessive 'figurative learning'.

Figurative learning is the stage of formation of symbols and metaphor, involving emulating and the portrayal of something to somebody. By imitating the many symbolic expressions, which the child is constantly confronted with, the symbols gradually become the internal possession of the child. This kind of imitation is instinctive, and

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Schloss Turnau in Brandenburg, *Wolkow Okospeicher* near to Frankfurt, and the *Akedemie Lehrgarten* in Baden Wurttemburg (Reinecke, 2000).

subconscious, and is a function of the necessity to live in harmony with the environment (Reinecke, 2000).

The third process regarding active learning is '**connotative learning**', which combines both 'operative' and 'figurative' learning processes, where the cultural symbols which the child has copied become coupled with operative experience. This takes place by attaching words to their meanings, connecting actions to words, connecting signs and symbols to their concrete counter-parts, and direct experiences to descriptive symbols. The process of connotative learning occurs as the child's own experience is coupled with a cultural meaning. For example, a child picks up words and expressions used by adults and learns to repeat them, then gradually understands which expressions belong what situations.

5.6.3 Educational Application

Applying this to education, Capra (1996) identifies some pre-requisites for an 'active' school. It must first recognise reciprocal dependency, by which he means connecting practices of all subjects, e.g. science, maths, sports ... etc. He also emphasised the significance of cyclical flow of resources and applying acts to prevent the overuse or abuse of the learning environment, supplying the input and throughput of resources from the wider community, and the like. Co-operation and partnership among different parties, and even among children carrying different activities to learn from one another is crucial. A school like this is definitely characterised by flexibility and diversity.

Society's role and issues related to ecological balance were discussed in previous parts of this thesis. The following discussion will concentrate more on the notion of reciprocal dependency. This relates to the integrity of subjects, and the minimisation of any imposed fragmentation. In this regard indirect learning, play and movement-subjects are of significant importance.

Capra's concepts of reciprocal dependency matches the understanding of **primary school purpose as the development of insights and the chance to create a taste for learning, to inspire a lifelong interest, and not just to accumulate knowledge**. Such traditional curricular fragmentation [geography, chemistry, arts, sports... etc.] expresses less relevance to this purpose, other alternatives that help children to open their minds, hearts and senses to explore the world and make it their own are needed more.

The role 'movement subjects'[6] may play in relation to reciprocal dependency is critically important. Wild (1990) also argues that dedicating enough time for these subjects is equally important. In addition to responding to human physical and psychological needs, offering valuable possibilities of healthy expression of the child self, strengthening self-confidence, and establishing balance and harmony with the environment; they contribute reciprocal dependency, as explained in the following example.

In a sports session for example, students can be told to **measure** the race-course using a measuring tape, and use the stopwatch to identify the elapsed **time** for each. Students then **write** the results down, and **compare** them to the best known score. Children can take record of their pulse before and after running, to learn about **logic comparison**, **rates**, in addition to **physiology**. In a ball game, they can experience tangible meanings of **speed**, **weight**, and **gravity**, parallel with grasping the values of **teamwork**, **co-operation**, **planning** and **co-ordination**. Similar learning scenarios can also be part of music or art education sessions (Wild, 1990).

Cooking (under teacher or assistant supervision) is another good example of **indirect learning**. Children **read** the recipe, **weigh** the ingredients, they improve sensory experience of **sight, smell and taste**, they know more about **texture and consistency**. Transferring the mixture from a mixing bowl to the baking tins helps children to construct an understanding of **volume**. They also know about the **time** needed for the cake to bake fully at a certain **temperature**. When the cake is ready, they start to **divide** it according to the number of participants. Cooking is a **social** event that involves **group cooperation** and **joint fun** ending with **an enjoyable product** (Rintoul & Thorne, 1975).

5.6.4 The Learning Environment

Human knowledge can be understood as evolving subjectively from within nature. Environment is known to be a continuously evolving mental concept, underlying any perception of physical entities. This is a process of continuous transformation, based on interaction with that physical entity (Ujam & Stevenson, 1996).

Thus, education should be in direct contact and continuous interaction with the environment, not isolated from it. Education should not end-up with an irrelevant understanding of environment, as a result of not recognising such transformations.

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[6] e.g. drama, art and crafts, music, dance, and sports.

Sommer and Becker (1974) suggest that direct experience such as visits to places outside the school can teach much more than formal lecturing. For example visiting a zoo is far better than simply viewing a slide show. This has motivated many schools who seek to follow an 'active learning model' to provide pet corners or mini farms, so as to enhance the children's interaction with natural environments. Trees, flowers, and ponds are another vocabulary of the natural landscape which children can interact with. In addition to the value of these elements in improving air quality, they are widely believed to have pleasurable and aesthetic effect. Trees and flowers are very common in schools, but in spite of Simonds's emphasis on the significance and desirability of water for both children and adults, "If there is magic on the planet, it is contained in water" (Simonds, 1983: p. 48), many schools still think of providing water to drink but very rarely for play (Moore, 1972).

In addition to its aesthetic value, constructing a pond with reasonable safety precautions enables children to monitor the way the habitat attracts different creatures and plants during the year and to develop an awareness of their full cycle of growth (Dudek, 2000). Nature's contribution towards shaping the individual's character is discussed in further detail in '5.6.5' below.

It is a prime concern for an 'active' school design to encourage unconscious learning, this might be reinforced by providing pleasant shaded play areas, with attractive landscaping and creative play materials (Propost, 1972). Unconscious learning can be amplified in many ways other than play, such as the use of wall and floor murals produced by local artists, or a world-map in a visible place for example, to make pupils unconsciously aware of the continents, oceans, and different countries. Even the use of photographs, articles, and diagrams, is better than leaving walls blank and unattractive (Mogren, 1992). This puts children in direct contact with knowledge from which they can abstract and draw their own conclusions.

Titman (1994) suggests that children read any external environment as a set of symbols telling them what they are supposed to:

1. 'do': by offering opportunities for a variety of physical activities
2. 'think': by providing intellectual stimulation, discovering, studying and learning about themselves and their friends, which allows them to discover and understand more about the world.

3. 'feel': by presenting colour, beauty and interest; engendering a sense of ownership, pride and belonging; in which they could be small without feeling vulnerable, where they could care for the place and people in t and feel cared for themselves.
4. 'be': by recognising their individuality, their need to have private persona in public place, for privacy, for being alone and with friends, for being quiet in noise. Briefly, for being themselves.

Sue Fenoughty[7] has identified nine habitats that should be present in every school site, to provide a rich and diverse natural environment. These are: a pond; a wet area; short grass; long grass or meadow land to attract butterflies and scarce species; a hedgerow to filter particulates from polluting traffic and encourage wild life, particularly birds and small mammals; an old dry wall; a roofed garden for wet days; vegetables and fruits for cultivation; and a woodland or coppice (Dudek, 2000). Titman's study adds to these the inclusion of surfaces which do not hurt; natural colour diversity and change; places and features to sit in, on, under, lean against, where children can find shelter and shade; and a landscape that provides different levels where they make dens and find private structures, play-equipment and materials which can be changed physically or in their imaginations.

School designers have to be conscious that it would be disadvantageous to endogenous development if these plants or ponds were not already part of the natural environment [i.e. imported plants just for beautification]. This will not support the idea of building on the pupils' experience of their environment. **Thus, to support endogenous development, the theme of active learning should be applied using local vocabulary.**

Providing such stimulating environments with minimum adult imposition empowers the child's ability to connect his own previous experiences, utilise them to solve problems, and raise new questions. The child has a real opportunity to satisfy old needs, release old blockages [as described by Janov and Holden above], avoid creating new ones, and thus to open the channels to an unhindered flow of understanding both inner and outer experiences (Wild, 1990). **If these were put in harmony through genuine interaction with the child's natural indigenous environment [that is not artificial], their**

[7] A famous environmental education consultant who has been working with landscape architects in Birmingham on over a hundred school even earlier than 1991.

experiences will emerge from genuine local vocabulary and backgrounds. Hence, the child will be able to put forward solutions that are more relevant to his environment, in support of future development, particularly in the endogenous sense. Increased interaction with the environment considerably enriches the child's vocabulary of symbols and examples, which the child can use in the future.

The following discussion illustrates three examples of schools which in one way or another actualise the above notions. First, Hillside Home School in Wisconsin, designed by Frank Lloyd Wright in 1887, is viewed as a new form of school architecture. This form was not confined to a restricted urban site, but rather opened itself up to the surrounding green spaces demonstrating the positive advantages of rural and suburban settings. The classroom vista was no longer restricted by high window-sills designed to force children to focus on the teacher. Instead they were encouraged to use the surrounding context as a catalyst to creative thought and activity (Dudek, 2000).

Figure (5-5) Hillside Home School, The first two pictures show the wide window openings to allow further contact with the surrounding natural environment, which is shown in the third picture. Source: Boston College web-page http://www.bc.edu/bc_org © Prof. Jeffery Howe.

Susan Isaacs pioneered a similar model in 'Malting House School' in which, following the principles of Maria Montessori, children participated in cooking, bakery and making drinks. The school had direct access to a large garden with sandpits, water-pools and a jungle-gym. A complete tool-kit including saws was provided. Pupils were taught through more practical approaches, e.g. animal dissection, which they carried out themselves. Although Isaacs did not pay particular attention to architecture in her project [apart from providing child-friendly details and equipment, and open aspect to the garden] its environment was a vital element of the educational process and an early example of architecture for childhood (Dudek, 2000).

A famous example that recognises active learning is the Pestaozzi School in Ecuador. In addition to **concentrating on the natural local environment**, the school was

characterised by participation at all levels: Children gather periodically to discuss school issues with teachers and make decisions jointly using a voting procedure. Similarly teachers have regular meetings together, to exchange observations and discuss unsolved problems. Parents also have meetings with teachers to promote the integration of effort, meet individually through teacher's visits to their homes, or even arrange meetings on their own and conduct field visits to the school to discuss relevant issues (Wild, 1990). This is a good model for schools aiming to promote endogenous development.

While traditionally there has been no choice for the child's regarding connection to their environment, latterly there has been a shift through little or no connection to a point where we can now choose to form a connection. Endogenous development is about complete connection and interaction with the environment.

5.6.5 Learning from Nature

School gardens should become a positive aid to child development rather than being a hard plain area for physical exercise and a limited number of games. The garden can be an essential extension to the teaching space of the school. Whilst school buildings remain the context for more formal teaching activities, outside spaces become the freer context for children to learn through play. A school garden can additionally introduce children to different planting seasons, and to ecology and wild life using magnifying glasses to identify snails, worms, spiders and beetles to know about the range of creatures found in and on the soil. This emphasis on gardens is not to be interpreted as denial of the need for hard open areas, which children require for ball games. Both are needed (Dudek, 2000).

It is suggested that the development of creativity and ecological experience in childhood are correlated. Natural environments and places which are manipulable, offer variety, diversity and 'potentiality' for change. Children actively seek out places and elements which present opportunity for risk and challenge. Playing in woods, for example, climbing trees, building dens and swings, burying things, and finding things are very interesting to children. When a child climbs a tree he can use his imagination. Excessively safe playgrounds take the fun out play. Mud is brilliant fun for children, as they can do lots of things with it like making mud pies and other shapes. Providing loose equipment for children to use in their playtime, like balls, quoits, hoops, beanbags,

small cones, chalk, and skipping ropes results in increased sharing, co-operation and interaction amongst children (Titman, 1994). Such challenge and discovery are important elements towards achieving self-discovery, and this is discussed further later in this chapter.

Figure (5-6) Example of school grounds which provide challenge, diversity, privacy and places to hide and discover (Titman, 1994) © WWF UK / Learning Through Landscape.

Even in waste grounds children will trench, dig, make rivers, hills and valleys, pools and streams. They may try to float boats, bury hidden treasure and make seesaws of planks and logs. They will find caterpillars and worms, ants and slugs, and stop what they are doing to examine them (Boyce, 1939).

For reasons which were discussed above, this model strongly highlights the significance of contact with the natural environment. As an important element in the shaping of the human personality, it will be important to discover more about the values children learn and acquired from nature.

Rolston (1988) describes that a purely urban person, who lives and dies on concrete without ever setting foot on Earth, is a one-dimensional person. Only those who add the rural and the wild are three-dimensional. No one has learned the full scope of what it means to be moral until he or she has learned to respect the integrity of wild things. Humans sometimes want the wild environment as an alternative to the built environment, which meets otherwise unmet needs, i.e. people like to be in outdoors simply because they are surrounded by something greater than anything they find indoors.

However, children cannot spend their whole life in the wild. It was experimentally found that children brought up solely in the wild with no human contacts adopt inhuman beast-like behaviours. It would seem appropriate to the present study to introduce children to nature as part of their lives, not the only thing in their lives. This is particularly important in a city like Cairo [especially with its moderate climate making such interaction conveniently possible] where urban growth and concrete blocks have mostly replaced natural features and open spaces. Children need some contact with nature as a religious, scientific, recreational, aesthetic, and economic 'resource'. This is explained further in the following discussion.

a. Utilitarian Values

There are so many utilitarian values provided by nature such as food, medicines, minerals, water, oxygen, airflow, water cycles, sunshine, nitrogen fixation, decomposition bacteria, fungi, ozone layer, food chains, soils, earthworms, climates, oceans, genetic materials, and many many others (Rolston, 1988).

In a way, we derive satisfaction and confidence from nurturing our material dependence on nature. People often participate in using nature, because these pursuits nourish their passion for extracting with skill a portion of their **material needs and wellbeing** from the land. Beyond the obvious practical gains, they also harvest **physical fitness, emotional connection, critical thinking and problem-solving capacities** (Kellert, 1999).

b. Acquiring Knowledge

Humans value both the diversity and the unity which occurs in nature. For example, the physical sciences have revealed the astronomical extent of matter coupled with its reduction into a few kinds of elements and particles, which dissolve into inter-radiating wave fields. Similarly, taxonomists have enlarged the array of natural life forms, while biochemists have found the materials as RNA and DNA to be at the core of everything. The natural tableau is a kind of symphony of motifs orchestrated together, which are sometimes even chaotic, but are all driven from a few simple notes (Rolston, 1988).

Perhaps one needs to identify how both diversity and unity feed the human mind. The mind cannot be formed under the homogeneity of a blank wall but before the heterogeneity of a bewildering jungle. A complex mind evolves in order to deal with a diverse world, yet one through which unifying relationships runs. Emerging out of

nature we have become geniuses by confronting nature's plurality-in-unity, both historically and scientifically (ibid.).

In addition to the notions discussed above, the natural world offers a limitless stage for sharpening **critical thinking skills, problem-solving abilities, and analytical capacities**. Observing and examining natural process provides people with an array of **challenging opportunities for acquiring knowledge, developing understanding and improving evaluative aptitudes**. Natural diversity provides an especially accessible and stimulating context for **pursuing intellectual competence** (Kellert, 1999).

Every culture remains resident in its own particular environment German culture, for example, is associated with the Black Forest; the Russians with steppes; the Greeks with the sea ... etc. Preserving forests, prairies, ranges and the like, provides learning echo of how ancestors lived (Rolston, 1988).

A wilderness trip mixes the romance and the reality of past in present experience. Understanding native American Indians requires wilderness to lift the historical experience out of the books and recapture it on a vivid landscape (Rolston, 1988). This can similarly be experienced in the south of Egypt, where some of the historic environment remains intact. In these areas one feels really the passage of history, and one starts to grasp more about the way the Pharaohs lived and developed. Probably a more moving example is Al-Madina Al-Monawwara - in Saudi Arabia, where Prophet Mohamed (pbuh) lived and died. One can come across a unique spiritual and informative experience touring around some historic quarters [e.g. Uhud mountain, Al-Baquee' graveyard] where the Prophet and his companions witnessed and contributed to significant milestones in the history of Islam.

In brief, Rolston (1988) concludes that people in every nation need nature as a museum of what the world was like in the past, before we so recently arrived.

c. Aesthetic Values

Beauty in nature can engender recognition of **harmony, balance and grace**. People may also discern **unity and order** in certain natural features, and these aesthetic expressions inspire and instruct. Aesthetic preference for natural diversity also fosters interest and **curiosity**. These in turn encourage **wonder and mystery**, which enrich our capacities for **exploration, creativity, discovery and learning** (Kellert, 1999).

People aesthetically favour landscapes with water for example, which enhance **sight and mobility**, have bright flowering colours, and provide a greater chance to **perceiving danger and locate shelter** (ibid.). This, in some sense, is how Orians & Heerwagen (1992) and Ulrich (1993) interpreted aesthetic preference for certain natural features to be linked to the increased likelihood of achieving **safety and security**.
Aesthetic quality in nature can be linked to **physical and mental healing**. When distressed, people seek the restorative power of aesthetically pleasing features, like gardens, seashores, mountains … etc. (Kellert, 1999).

d. Life Values

Humans have a power to understand, appreciate, and enjoy nature far beyond their biological uses of it. Nature is a carrier of both objective and subjective values. (Rolston, 1988)

Yet, people extract **physical, intellectual, and emotional** values from personal exploration of the rich tapestry of nature's many shapes and forms, above all its outstanding plants, animals, and landscapes. These values come out in the form of extended capacities of **imagination, curiosity and adventure** (Kellert, 1999).
Direct encounters in nature enhance the ability to **react quickly, resolve new and challenging situations, and overcome difficulties**. Immersion in nature provides people with opportunities for **focused attention, more authentic experience, fostering feelings of calm, clear sense of priorities, and enhanced strength**. People seek opportunities for **overcoming challenges and hardships**. Nature provides a valued context for such **competitive traits**, hence developing feelings of **self-confidence** by demonstrating the ability to function under unfamiliar or difficult circumstances. They, moreover, develop willingness to **take risks, face adversity, and master the unknown** (ibid.).

e. Religious and Moral Values

There seems to be something about loving the soil, the labour and **patience** of raising corps, that couples well with values like **trust, honesty, humility, simplicity, frugality, serenity and independence**. Although these virtues can be learned in towns, they are best taught nowhere than through an encounter with rural nature (Rolston, 1988).

Evolution and ecology have taught us that every kind of life is what it is environmentally, in its surroundings, not autonomously. Humans too are environmental reciprocals, indebted to our environment for what we have become in ways that are as complementary as they are oppositional. Dialectically, the character is achieved within us, but the context is relational. Nature is not sufficient to produce these virtues, but is necessary for them (ibid.). More on this topic was discussed earlier in Chapter Four of this thesis.

An example that introduces nature as part of children's lives and education is the **'Forest School'**. This idea originated in Sweden in the 1950's, and was later adopted in Denmark (BWC, 2003). In 1994, Bridgwater College was the first to introduce it in the UK, where it was developed it to work with all age groups. Forest School aims to nurture, support and develop self-esteem, so that participants have a sense of self-worth and improvement of practical and intellectual skills (BC, 2003). The school encourages an appreciation of the natural world and builds self-confidence throughout (FC, 2003).

Forest School's principal purpose is to design curricula tailored to participants' preferred learning style, whilst using the outdoor environment as a classroom. Its philosophy is to encourage and inspire individuals, by assigning them small achievable tasks in a woodland environment to grow in confidence, self-esteem and independence. As the individual's self-esteem develops, the tasks become more complex, but always achievable (BC, 2003). Under this program, going to the woods is not a field trip, but a school routine in all Fridays[8] during term-time. Forest School is not only learning about trees, worms and the environment, although that may be part of it, it deals with all curricula including numeracy and literacy (Haersaerts, 2002). This is done in a child-led setting, with high levels of adult supervision to enable children free and safe undertaking of the types of activities that are often prohibited, such as climbing trees, lighting fires, rolling in the leaves … etc. (BWC, 2003).

[8] This is in Greenmere Primary School in Didcot, Oxfordshire.

Figure (5-7) Forest schools
Left: Worcestershire Forest School (BWC, 2003)
Middle and right: Bridgwater Forest School (BC, 2003)

Due to their success in the Forest School programme, Bridgwater College was awarded the Queen's Anniversary Prize for Higher & Further Education in the year 2000. Currently, there are more than six forest schools in UK, with numbers still increasing (BC, 2003). At Worcestershire Forest Schools, for example, 320 children have experienced the program in one year. Accordingly, its managing agency was given a further three years to develop their program, with the aim of making it an integral part of the county's education in the near future (BWC, 2003).

5.7 Humanistic Education

Elkind's model addressed education and learning from the cognitive development point of view. This model of education, which Maslow also named *'entrinsic education'*, is built upon the hierarchy of needs discussed earlier. Maslow observed that all self-actualisers are creative - artistically, scientifically or in variety of ways, but always creative. Thus, he put self-actualisation as a prime objective for this model.

The **humanistic** goal of education is ultimately the **'self-actualisation'** of a person, the becoming fully human, the development of the fullest height that the human species can stand up to or the particular individual can come to. In other words, it is helping the person to become the best he is able to become. Intrinsic education is learning to be a human being in general, and second, learning to be this particular human being (Maslow, 1973).

For Maslow, learning was relevant to all human needs. Learning involves not merely the acquisition of data, but the holistic re-integration of the individual, continually producing changes in self-image, feeling, behaviour, and relationship to the environment (Cox, 1987).

5.7.1 Conventional Education Problems

The need to know and to understand is seen in late infancy and childhood, and in fact this is stronger in children than in adults. Children do not have to be taught to be curious, but they may unfortunately be taught, as by institutionalisation, not to be curious (Maslow, 1987).

The chief concern in conventional education is efficiency. That is, with implanting the greatest number of facts into the greatest possible number of children, with a minimum of time, expenses and effort. On the other hand, there is a minority of humanistically oriented educators whose prime goal is to create a better human being. In psychological terms 'self-actualisation' (Maslow, 1973).

Classroom learning often has, as its unspoken goal, the reward of **pleasing the teacher**. Children in the traditional classroom learn that creativity is punished, while repeating and memorised responses are rewarded. They concentrate on what the teacher wants them to say rather than upon understanding the problem. Since classroom learning focuses on **behaviour** rather than **thought**, the child learns exactly how to behave while keeping his thoughts his own (ibid.).

Educationalists have to be conscious that punishment pressure or reward motivation might possibly divert child's attention off what is really in harmony with his inner interests, which might likely darken and distort understanding (Wild, 1990).

To take an example of education that opens the way towards creativity and analytical thinking, pupils may address themselves to the question: why was there no United States of Greece? This is, in a sense, a way to use classical studies to illuminate their own world. By contrast, the wrong approach to classical studies is to say to pupils: "Learn this, but do not ask why." (Jeffreys, 1972).

5.7.2 The Basic Needs

An important goal of intrinsic education is to see that the child's basic needs are satisfied. A child cannot reach self-actualisation until his needs of security, belongingness, dignity, love, respect and esteem are all satisfied (Maslow, 1973).

Maslow (1987) reported a school review program [carried out by Gust in 1985], seeking to discover the extent to which needs were met, with reference to Maslow's hierarchy. The program interpreted physiological school-needs as free lunches, clothes,

transportation ... etc. Where safety needs can be seen as fire drills, child abuse awareness, absence calls ... etc. Love and belonging needs can be represented in schools through class meetings, friendship groups, counselling, genuine caring for children, and the like. Titman (1994) confirms that participation is clearly synonymous with the development of a sense of ownership and belonging. For developing esteem and self-actualisation, programmes have included the display of student work, explanations along with graded report cards, reinforcement awards, and participation in productions and special activities. More details about self-actualisation in education are discussed below.

Humanistic education, as described by Maslow, should respond to basic needs and recognise the following themes:

- Responsibility for one's own learning and identity development.
- Support and acknowledgement of the need for love and a sense of self-worth.
- Teacher as a structuring agent of an open classroom.
- The use of peer groups in learning process.

More relevant issues are discussed below in '5.7.6 The Learning Environment'.

5.7.3 Learn to Learn and Choose

Maslow believed that education should be about personal growth, what to grow towards, what to choose, and what to reject.

Toffler (1971) argues that today's schoolchildren will become adults in a totally different world. This implies the essential demand for an evolving and flexibly changing educational system to conform to future needs, not to hinder their future development by incompatible and imposed pre-settings. The suggested alternative is *"learning to learn and choose*". The individual would not be limited within unusable ideas but rather capable of following self-guidance enabling him to face new values and ideas. Learning should create people who are capable of doing new things, not simply of repeating what other generations have done, people who are creative, inventive and who are discoverers. Learning is to form minds that can be critical, can verify, and do not accept everything they are offered (Reinecke, 2000).

Toffler also sees such a situation as an inappropriate pre-programming process. That an individual who relies on outside knowledge of prefigured fixed curricula without developing inner personal security, would actually be **in danger of being re-**

programmed from outside threatening the integrity of his being. One's values and ideas are the result of an evolving culture within society. Children have to grasp and live the real spirit and soul of their culture to cope with such evolutions and changes. They should be able to absorb their local codes, to become capable of dealing with future transformations, and carry out real development that stems from and responds to their indigenous being. Such interaction with the environment is also supportive of Elkind's active learning, with its roots in Piaget's work as discussed earlier.

It should be the education of the whole person, a process of exposing people to the mysterious in themselves. The emphasis is on learning how to learn. Learning is a process, a journey reflecting the discoveries of personal transformation. Maslow advocated that schools should exist to help people to look **within themselves** and from this knowledge develop a set of values characteristic of their identity (Maslow, 1973).

5.7.4 Discovery of Identity

This discussion of identity discovery is based on Maslow (1973). His view of ideal education is where individuals can find themselves, find what they like and want, what they are and are not good at. People would take various subjects, attend various seminars, not quite sure of where they are going, but moving towards the discovery their real interests. Thus, the chief goal can be phrased as 'discovery of identity'.

Discovery of identity here means finding out what one's real desires and characteristics are, and being able to live in a way that expresses them. One should learn to be authentic and honest in allowing behaviours and speeches to be a true expression of the inner feelings. Unfortunately, many of us have learned to avoid such authenticity, for example, one may be in the middle of an argument, but when the phone rings suppresses the real inner feelings to respond courteously to the call.

A large number of people do not know what is going on inside themselves, they just live by clocks, laws, rules ... etc. they are externally directed. Sometimes when people listen to a certain type of music, or see particular piece of art, they feel signals from inside, they feel voices yelling out: 'Oh, this is really good'. This is called **'peak experience'**. This peak experience is a path towards perceiving ones biological identity, a way to teach **self-actualisation** and the discovery of self. This discovery of identity comes via the ability to listen to one's own guts, and to their reactions and to what is going on inside.

Music, dancing and art education are closer than 'core curriculum' to intrinsic education and **learning one's identity** as an essential part of education. They are so close to our biological core, so close to this identity, they should not be thought of as luxury, but rather as basic experiences in education. They may be at the core of intrinsic education. This may even help rescue the rest of the school curriculum from being meaningless, goal-less and free of value. This applies to all taught subjects, mathematics for example, can be just as beautiful as music, with the help of teachers who have devoted themselves to this.

Many researchers have concluded that there is a very significant correlation between place-identity and self-identity. Proshansky and Fabian (1987) suggest that place identity is a substructure of the person's self-identity and is comprised of cognitions about the physical environment which also serve to define who the person is. Cognitions that form the basis of place-identity include affective responses to settings that range from attachment to aversion. Consequently, self-identity is informed by cognitions of the physical world that are not only self-enhancing and supporting but also threatening and potentially damaging as well. The child necessarily develops a sense of who they are -defined not only by an array of specific physical settings, but no less significantly by the social definitions of those settings as expressed by the other people, the activities and the roles the child must play in them.

We know that children are capable of 'peak experiences' and that they happen frequently during childhood. We also know that the **present school system** [in Egypt] is an extremely effective instrument for crushing these 'peak experiences' and forbidding their possibility. Of course, with the traditional model of thirty-five children in one classroom and a curriculum of subject matter which has to be taught in a given period of time, the teacher is forced to pay **more attention to orderliness and lack of noise** than to making learning a joyful experience. Even the difficult tasks of learning to read and subtract and multiply, which are necessary in an industrialised society, can be enhanced and made joyful. People who are described as healthy, strong and definite seem to be able to hear their inner-feeling-voices more clearly than other people can.

An appropriate education should test children's capabilities, and see what they can do best. The schoolteacher then **takes their style and builds upon it.** The teacher does not start all over again, and say 'forget all you've learned, and do it this new way'. This

would be akin to saying 'forget what you are good for'. The teacher takes them and builds upon their own talents to become the very best they can possibly be.

If we want to be helpers, teachers, counsellors ... etc., we must accept the person and help him learn what kind of person he already is, what is his style, aptitudes and potentialities, what is he good for, and what can we build upon. This would provide an atmosphere of acceptance of the child's nature, hence reducing his fear, anxiety and defence. Above all we would care for the child, that is, enjoy him and his growth and self-actualisation.

5.7.5 Self-actualised People in the Society

Maslow firmly believed that individual health cannot be separated from **collective** health any more than personal growth can be separated from spiritual growth.

Conventional education aimed at adjusting the individual to society as it exists, whereas humanistic educators maintain that society should accept its members as autonomous and unique, and should benefit from such diversity and wide individual capacities (Cox, 1987).

Schools should help children to look within themselves, **and from this self-knowledge derive a set of values**. Referring to western experience, Maslow (1973) suggests that values are not taught in today's schools. This may be a holdover from the religious wars in which the church and the state were made separate and the rulers decided that the discussion of values would be the church's concern, whereas the secular schools would concern themselves with other problems. This also applies to Egypt, as trends of secularisation witnessed considerable rise, resulting in the dreadful setbacks discussed in Chapter Three hence limiting the role of mosques in subsequent eras.

Self-actualising people seem to do what they do for the sake of ultimate, final values, for the sake of principles that seem intrinsically worthwhile. They protect and love these **values**, and if these values are threatened they will be aroused to action, and sacrifice. These values are not abstract to the self-actualising person; they are as much part of them as their bones and arteries. Self-actualising people are motivated by eternal verities, by pure truth and beauty in perfection. They go beyond polarities and try to see the underlying oneness; they try to integrate everything and make it more comprehensive.

We must certainly grant at once that human motivation rarely actualises itself in behaviour except in relation to the situation and to other people. Any theory of motivation must take account of this fact by including the role of cultural determination in both the environment and the organism itself (Maslow, 1987).

5.7.6 The Learning Environment

Referring to the four points Maslow determined for sound humanistic education, the previous discussion explored the notion of the development of identity, where self-worth can be enhanced by a variety of aspects, an example of which is school maintenance.

Poorly maintained buildings tend to encourage vandalism and a declining morale among pupils. The Head-teacher of Northicote School in Wolverhampton - UK, has spent considerable effort and money on school maintenance, painting, replacing broken windows and upgrading lavatories in his school; in twelve months he found there was a dramatic reduction in the incidence of vandalism. He attributed this to:

> *"It is about pride. Having a school that looks good is about telling children they're worth something"* (Dudek, 2000: p. 43)

Mogren (1992) suggests emphasising the children's feeling of self-worth and sense of belonging to their learning environment by providing further sorts of ownership, like private lockers, personal drawers in each desk, or a class library for example.

In addition, N. R. Scott (1974) states that **self-actualisation** was fostered in wilderness settings, and refers to nature as a place to "know thyself".

The extent to which children can support and learn from each other should not be underestimated, particularly if they are allowed to mix within different age ranges (Dudek, 2000). It is important that schools give children a sense of accomplishment. Children get a great deal of satisfaction in helping someone younger or weaker than themselves accomplish something (Maslow, 1973).

Maslow believed that humanistic values in education include the freedom to work joyfully, find happiness, and develop personal interests. Awakening self-assurance, insight, spontaneity, and growth should be at the heart of all education.

Building on the above statements, Cox (1987) suggests that the 'open plan' is the right model to realise Maslow's ideas in the educational context, and particularly the last two points of his criteria discussed earlier. In open plan classrooms the teacher abrogates the

authoritarian role, being led by pupil's interests. As explained below, the open plan model comes very close to achieving Maslow's humanistic goals of education.

a. Basic Needs

Before discussing the open plan concept, some general architectural aspects of the learning environment, which are considered to respond to basic needs like thermal aspects, ventilation, illumination, pollution, safety ... etc., will be covered.

A school location needs to be far from all sorts of noise, pollution, industrial activities, and heavy road traffic, although a school should be easily accessible through a well-maintained street-network. The proximity of the school to housing clusters needs to be carefully considered, particularly with regard to young pupils, who need to have suitable and safe walking trip. The area needed to provide comfortable respiration and movement for pupils is also an important issue. A comparative study between England, Scotland, France and Switzerland suggests a minimum of 25-40 m^2 per student for the overall site (Aiche, 1987). For the indoor teaching-space , the British standards require there be 1.80 m^2/pupil for the first ten pupils or part thereof, 1.50 m^2 /pupil for the next twenty, and 0.36 m^2/pupil thereafter, i.e. the minimum area of a forty-pupil classroom should be 48.60 m^2 (Saleh, 1984).

In her research about children's requirements in school grounds, Wendy Titman's (1994) findings have considerable relevance to Maslow's human needs. For example, the requirement of shelters in school grounds is appropriate to Maslow's physiological needs, i.e. food and shelter. The comments about tarmac and asphalt floorings express consciousness about safety needs. Concern about negative elements of litter, vandalism, broken fences ... etc. were read by children as signifiers that the school did not care about the environment or about them, which emerged from their need to belonging and love, as well as the need to be esteemed. Finally, the sense of challenge and discovery they prized is very relevant to self-discovery and self-actualisation.

Natural ventilation positively acts in providing better performance and a suitable atmosphere. It also supplies fresh air, provides a renovated source of oxygen for respiration, moves away hazardous gases like carbon dioxide, reduces the chances of harmful bacterial augmentation, removes undesirable odours, and in addition, fosters thermal comfort by cooling the interior via convection and excessive heat removal. The

desirable air-change rate in classrooms, libraries, laboratories ... etc. was found to be two air-changes per hour, at an average wind speed of 0.15 to 0.30 m/sec (Saleh, 1984).

Building orientation is another important parameter in responding to suitable thermal control, natural lighting, wind directions and ventilation. In Egypt, classrooms are best oriented towards north and east directions, where the worst orientation for study rooms is south and west. Sun shades[9] and open corridors may be used as climatic remedies where constrains preventing such orientation are experienced [e.g. access, neighbours, plot dimensions ... etc.] (ibid.). These devices are also an effective solution to reduce heat gain, solar radiation, and undesirable glare that might result through dynamic movement of the sun throughout the day. If they were properly designed to shade the openings and allow airflow, they are likely to reduce the total heat gain due to sunlit exposure by up to 80% (Rogers, 1964).

Thermal performance[10] should be designed to provide a comfortable temperature range for pupils. The recommended temperature range in Egypt is between 19°C – 23°C for thermal comfort. Accounting for a slight increase due to children's higher metabolic rate, and human adaptation capabilities, an indoor temperature of 23°C -25°C should be suitable for classrooms (Saleh, 1984). Relative humidity is another parameter that is associated with thermal comfort. Khafaji (1987) indicates the appropriate percentage to lie between 30% and 70% to comply with the human comfort range. However, no single material is recommended to be solely used for the whole building. Different factors affect the decision of what material to be used in which orientation. In his study in Phoenix, Olgyay (1963) found that roofs were the most likely to need high thermal time lags of eleven to twelve hours, where the least were northern walls for which a lag of five to ten hours was fine.

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[9] North and south facades are best treated by horizontal louvers, where vertical ones best fit east and west elevations. A combination of both horizontal and vertical is named 'egg crate grill' and can be used in all orientations. The configuration of such device (i.e. dimensions and solid to void ratio) depends on the orientation in which it is to be used (Konya, 1980).

[10] The thermal performance of building materials is usually assessed in terms of two variables, the first is 'overall heat transfer coefficient U' that is measured in W/hr/m2 and represents the actual thermal insulation capability of the used material. The lower the U value is, the better insulation performance a material possesses. The second parameter is 'time lag' i.e. the time during which heat is transferred across the material. Clearly, high time lag represents higher thermal storage ability, yet storing larger amount of heat before releasing it at low temperature hours, or in other words allowing slower internal heat change (Olgyay, 1963). Since schools are basically used in day hours, high time lag materials should be more appropriate in hot dry areas, so that to store heat in day hours and defuse it inside the building when students are away. Where lighter ones would be more desirable in moderate humid regions, which are

The geometry of the built shape has proved to be significantly relevant to its thermal characteristics. Olgyay (1963) advocates that square shape is the best in terms of preserving heat in winter and remaining cool in summer,. A square shape also combines the largest utilised area with minimum outside surface area. The use of small openings also minimises radiation effects. Olgyay referred to a 1:1.3 ratio rectangle as most suitable in hot climates, with longer sides facing east and west to balance between the changing climatic settings. Winter requires high exposure to solar radiation causing undesirable thermal loads in summer. Saleh (1984) argues that round shapes could be more advantageous for the hot Egyptian climate [avoiding direct solar radiation falling on external surfaces], but the construction difficulties associated with such form makes the compromise of a hexagonal shape more reasonable, baring in mind its extension flexibility [honeycomb-like] and compact nature. He adds that cutting off an internal void [court] to be filled with shade and cooled air [trellis, trees, fountains ... etc.] should contribute considerably to achieving a better microclimate.

School buildings require both natural lighting, to achieve economic energy consumption and psychological wellbeing, and artificial lighting, to supplement insufficient daylight on cloudy days or in the case of poor building orientation for example. Sunlight control is achieved through studying the placement of the building. Important factors for consideration include the colours of surrounding external surfaces and shading devices. The building and its openings should be located where reflected sunlight penetrates the interior. However, placing windows by visual focal points like a chalkboard for example, is considered inappropriate (DES, 1967).

The luminance range for any working plan is set at a minimum of 150 Lumens, and where fluorescent tubes are used it should be no less than 300 Lumens. As for places needing combined lighting [natural + artificial] such as laboratories, libraries ... etc. this minimum should be raised to 350 - 500 Lumens (DES, 1981).

Hopkinson and Kay (1969) outline additional important requirements for an interior environment that is lit by artificial lighting supplementing natural under the following:

- Window-area should be no less than 1/16 of the floor area.

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characterised by limited variation in outdoor temperatures during daytime hours, with intense solar radiation (Van Straaten, 1967).

- Interior colours (walls, ceiling, furniture ... etc.) should be light, to provide reasonable interior light reflections; given that the maximum permissible reflective value is 70% to avoid visual discomfort and glare.
- Suitable illumination should range between 300-1000 LUX depending on the nature of activities carried out within the space.

With regard to safety, there should be an appropriate number of staircases of suitable width. Corridors need to be of reasonable width and length. Earthquake 'proofing' of buildings also has special significance in Egypt after the 1992 earthquake, which resulted in considerable casualties. Although there is no one solution that eliminates the effects of an earthquake, Aiche (1987) highlights some measures which minimise earthquake hazards, these are:

- Soil homogeneity and equal foundation depth is crucial.
- Settlement joints, and independently designed foundations are to be used in case of soil nature variation, and long buildings.
- Avoid long narrow buildings.
- Building width to height ratio should not exceed 2 : 3.
- Openings total area should be no more than 1/3 wall area.
- Avoid unsymmetrical building shapes in plans and elevations [e.g. staircases on one side] to minimise the effect of the torsion forces accompanying earthquakes.
- If cladding is to be used, it should be of light materials with firm fixation and installation, to reduce forces on main structural elements, and increase stability against earthquake dislocating forces.

b. The Open Plan Concept

Today emphasis must be placed on catering for **the differential development of individual pupils**, rather than simply treating the group as a single homogeneous mass brought along together like sheep, says Dudek (2000). The need to get out of the traditional 'chalk & talk', row-organisation of classrooms was developed in recognition of the different needs and abilities of individual children. This made many teachers group their children by ability in blocks of four, six or eight (Rintoul & Thorne, 1975). The Plowden Report[11] directed classroom activities away from work in large groups, towards smaller group activities, adopting an open zoned approach to the organisation

[11] 'Children And Their Primary Schools', a report published in Britain 1967, written by: Lady Bridget Horatia Plowden, common known as 'Plowden Report'.

of the school. The following discussion explains open plan organisation, spatial requirements and advantages, in accordance with the above two references.

Open plan suggests planning the school into a group of units, each unit consists of two or three classes – home-bases [which can be closed but are generally open-door], with common area in between.

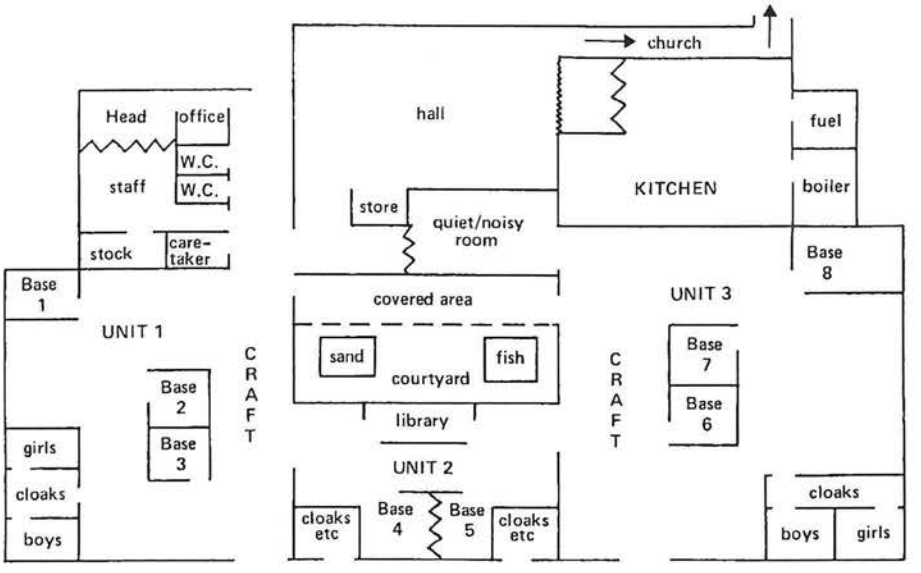


Figure (5-8) Diagrammatic sketch of a three-unit, eight home-base open-plan school, accommodating 105+70+105=280 pupils. (Rintoul & Thorne, 1975)

Children gather in separate classes for only certain times of the day, where the majority of their time is spent in the common area. In this common area, children of different ages form a sort of family group [where they learn from one another, e.g. when a child sees an older pupil carrying out certain tasks while they both are in the art and craft zone] and a number of teachers and assistants. A rotating timetable may be followed to make sure all children can have use of the different activities throughout the day. This system requires a high level of attention and careful record keeping of children's work and progress.

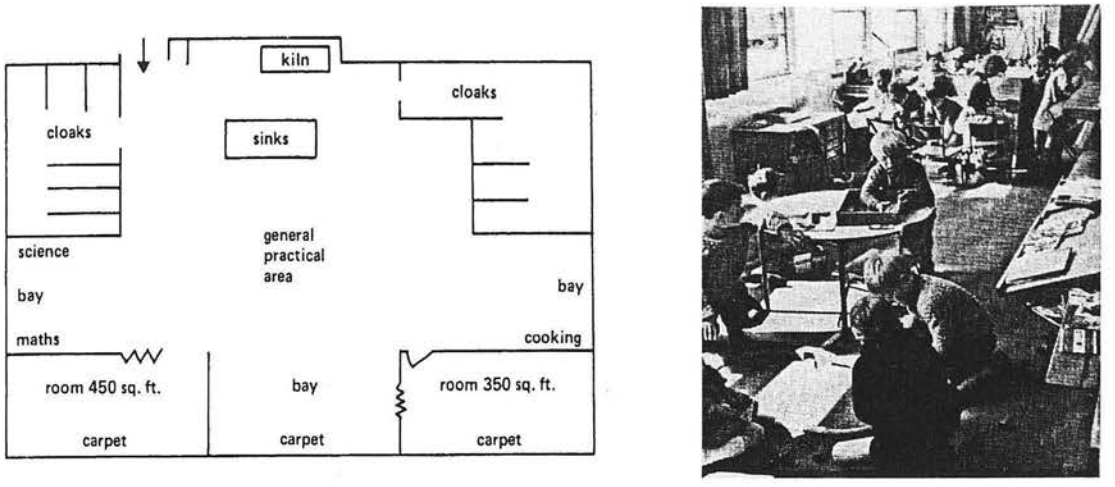


Figure (5-9) The general settings of an open-plan classroom.
To the left, a diagrammatic sketch of five-class unit, accommodating 30 pupils with one teacher each (Rintoul & Thorne, 1975).
To the right, a photograph showing the versatile activities to possibly take place in another open-plan classroom (Ward, 1976).

The day is divided into four one-hour periods, with fifteen minutes in between. No teacher would insist that a child should move away from a piece of work which is absorbing his interest just to adhere to the timetable. The timetable should be seen as a framework within which children and teachers have a great deal of freedom and flexibility.

The number of seats should be less than the number of pupils. Some may work standing, others on the floor, and so on depending on what they are doing: cookery, science, story-telling, art and crafts. They should not be all writing at the same time for example. Classrooms may be grouped in twos or threes, the ages of their students may vary to create a 'family' model, in which children may exchange knowledge and experiences. Joint classes [for different age-groups] may be held [in some instances] to get the best of different teachers' expertise, allow an exchange of ideas and to get the children used to others – rather than having their only class teacher or their specific class mates.

In the majority of open plan schools a team consists of two to four teachers. This clearly depends on the design. In primary schools the best method may involve a teaching team of three or four. A team of three to four teachers can cover the curriculum reasonably well without a loss of flexibility. On the other hand larger groups will automatically divide into subgroups. Moreover, the limited number of teachers promotes closer

harmony and co-operation. The 'pupil : teacher' ratio usually varies between 35:1 and 30:1, although the latter is preferable.

Except for periods in the classroom [home-base] the teachers are no longer teaching their own class of children for the whole day. Instead, they are spaced around the unit and are available to help any children. This helps teachers who are more experienced in particular areas to be of greater help to pupils. It is not that they are specialist teachers, but it is rather their individual strengths in particular areas which is important.

c. Spatial Requirements

In open plan schools, it is more important to provide designated areas for special teaching activities, such as quiet zones for reading and computer, and storage spaces for materials, rather than to simply increasing the general teaching area.

A classroom should accommodate different strategies of learning, ranging from whole-class groups, through to smaller groups reading to each other or working together, and one-to-one sessions. The space should be flexible to allow continual reorganisation. Dudek (2000) suggests that an open classroom that is capable of responding to such a variety of purposes should possess the following:

1. Spaces to fit small group discussions [6 pupil groups for example], providing a sense of separation to reduce the possibility of distraction or non-productive interaction.
2. Private area for special needs reading, where one-to-one concentration can be ensured.
3. A dedicated small reading room, which can be closed off, yet is accessible directly from the classroom.
4. Reading niches off the main classroom, for better concentration and audibility.
5. A classroom library providing a variety of books at child's height, with facilities to display new texts to provoke enquiries.
6. A dedicated zone for children to browse through new texts undisturbed.
7. A quiet writing corner as a focus for different forms such as notes, records, messages, greeting cards, notes to milkman, shopping receipts, newspaper reports ... etc. In preparing such writings, pupils may need particular spaces to plan and discuss these writing 'projects', as described in the first note of this list.
8. An area for displaying the pupils' work. Teachers should avoid the display of too much of the children's work in this area. This may cause the environment to become overly chaotic and cause serious distraction, particularly in spaces which require

quietening effects due to the number of openings and the spaces they are open onto. The majority of this may be displayed in an activity corridor, as a sort of long gallery.

9. A computer zone or niche is to be set off the main classroom space.
10. It is predicted that pupils may be getting their own laptop computers in school within the coming decade, this shall necessitate a different classroom design.
11. The use of movable screens and light partitions is a possibility.
12. The classroom space must be compact, open and free from all obstructions, to allow one teacher to manage it easily.
13. A separate room may be provided for noise generating subjects like drama, music ... etc. this is common named 'quiet / noisy room'.

In addition to Dudek's point above, the research emphasises the significance of having these classes open to school grounds, with the features outlined earlier, to allow interactive learning that comes from direct contact with the natural environment.

d. Further Advantages

Many advantages are claimed in the co-operative system of teaching over the conventional class-teacher organisation in separate classrooms, and Rintoul and Thorne, (1975) outline these advantages. Each teacher's specific talents become available for all children taught by the team. New teachers are more easily absorbed and find more security in an ongoing teaching situation where they can develop professional skills alongside the established teachers. A weak teacher is helped by the team in difficult situations. Staff absences can be more easily covered as the existing staff know the children and can help a supply teacher to take over more easily.

This sort of arrangement helps in carrying out a variety of activities [for different groups] within the classroom at one time. It was also found to improve the children's behaviour in relation to responsibility and sensibility – particularly when teachers train them to run the classroom themselves, knowing where things are kept, learning to help themselves with the materials sensibly, and putting things back in place to keep the room tidy.

Open plan settings can be more challenging and interesting for teachers than teaching one's own class in a room throughout the whole year. It can be refreshing and more natural for a teacher to work alongside other mature colleagues than to be isolated with

children for most of the day. Since the children imitate the attitudes of the teacher, the teacher can be encouraged to become a joyful and self-actualising person.

The open-plan arrangement promotes social interaction among teachers when every five teachers have to work together. It also promotes the exchange of experiences and participation among larger numbers of children of different ages. It facilitates child relations with a larger number of teachers, promoting socialisation and openness to other adults. It is a very good model of sharing in all dimensions.

On the other hand, people who are against open-plan organisation address several deficiencies. It is claimed that weak teachers, if beyond certain level, may not catch up with the rest of the team. In some cases, responsibilities become mixed. Probably the most critical concern about such an arrangement is the wasting of children's time, which can easily take place with an inexperienced teacher. The open plan system is also accused of failing to respond to the needs of a structured curriculum and quantifiable-result pedagogies. The variety of activities taking place is another difficulty for the conduct of quiet activities. For example while reading requires concentration, art significantly benefits from talking, movement and free expression.

However, such difficulties can be overcome by experienced teachers who are willing to co-operate, and are conscious of every individual pupil's level of achievement and capabilities, through keeping precise records for each.

5.8 Further Issues for Learning Environments

In addition to that which has been discussed in relation to Elkind's and Maslow's models, there are other issues which are relevant to the present study. Discussion of these issues will be of significant help in analysing and examining the case study schools in the following part.

Many studies prove that the physical settings of an environment can negatively affect the users. For example, thermal, visual and acoustic environments as well as overcrowding are significantly correlated with learning activities and students' attitudes. Nevertheless, the pre-occupation with physical settings without an appropriate understanding of the psychological dimensions may result in a useless product. An example comes from Dudek (2000) and involves the provision of hand-wash sinks fixed at three different heights in the same space. These were provided to cater for students of different heights. However, frustratingly to the designer, even the smallest children refused to use the lowest sinks. Instead, they all opted to use the highest regardless of

their own size. This relates to a psychological tendency most children have, to want to prove to others they are not to be treated as children, but rather as adults. Moreover, it is known that children happily use the adult facilities at home [e.g. stairs, sinks, toilets ... etc]. This suggests that physical size is not the sole or principal dimension for children's preferences, although this could help if utilised within an appropriate context. Designers for children have to recognise such underlying meanings.

5.8.1 Environments' Hostility Variables

Reinecke (2000) suggests that the environment can be hostile to children, and assumes that such hostility can possibly take place in three ways:

1. When people lack a feeling of **intimacy with the places** they live in, because the physical and symbolic attributes of these places are unknown and cognitively chaotic, hence faced with rejection.

An example of this is when a child is invited with his mother to another person's home. Depending on his **familiarity** with the new environment he will act his normal self, or exhibit signs of adjustment to that new environment. This is often labelled as shyness and is exhibited in behavioural patterns which deviate from the child's normal state of balance (Reinecke, 2000).

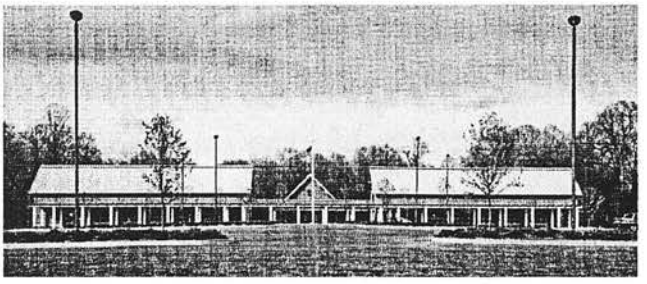


Figure (5-10) Two contrast school examples explain the concept of familiarity
To the left, Mary Tisko and Mary Murphy School, Connecticut – USA, which expresses familiarity (IPA, 1998) © Steve Rosenthal.
To the right, Salisbury Upper School, Maryland – USA, which uses strange vocabulary (IPA, 1998) © David Franzen.

Another example is that of school entrants, who usually face emotional upset due to the move to a new and strange environment. In this regard Rintoul and Thorne (1975) suggest that children should be distributed among two or three classes in which there are children who are already well acquainted with the environment, instead of having them all crying at the same time, for the same reason. Another suggestion is that school should be made more home-like, and should be a delightful and attractive place so as to avoid similar emotions and experiences among pupils (Engelhardt, 1970).

2. An environment can be hostile through impoverishment materially, mentally and spiritually; lacking sufficient **diversity of experience** to fulfil the child's needs. The issue of **boredom** produced through poorly designed environments has been reported in many studies to cause a range of inappropriate behaviours amongst children and adults.

Thus, a school should be pleasant in term of colour, materials, textures, lighting, ventilation, landscaping and furniture, to avoid any negative emotional impact that might affect the children's motivational levels (Castaldi, 1987). Pretty, neat and well-organised furnishings are very effective in promoting children's participation and intellectual growth (Samoff & Barbour, 1974). Carpeting, quality of light, and pastel wall colourings also have a positive influence on pupils' academic achievement (Mogren, 1992).

3. There are potential experiences offered by the environment which appear to correspond to the child's needs, but in actual fact convey an opposite message. A good example of this can be seen in many parks and playgrounds available for children's use, being surrounded with trees inviting the child to fulfil his instinctive need to test out his strength by climbing them. The 'hostile environment' enters in the form of an **adult interference** shouting at him to get out of the tree, not to cause damage to the tree or harm himself. Titman (1994) confirms that the potential of even the most wonderful environment can be diminished by rules which restrict the way it can be used. And, conversely, well-managed playtimes can greatly extend the potential of quite barren and uninspiring grounds. Such interference events cause painful disturbance to the perceptive process, that the individual has been prevented from living out his experience and his needs are therefore partially or fully unsatisfied. In other words, his attempt to achieve balance with his environment is interrupted, resulting in frustration and rejection of the environment which the child tried to experience.

AASA[12] report (1960) suggests providing special spaces in the school, where children can have the chance to create, explore ideas, experiment, assemble and split things apart, search for facts and try new and different processes. **Child-only spaces** show children that they too have their own **identity** and value. These spaces are

[12] The American Association of School Administration.

complementary to the more traditional fixed feature spaces such as the classroom, the gymnasium or the schoolyard (Dudek, 2000).

However, setting up an environment that helps pupils to discover new things and experiences is not to be interpreted as limitless. The environment is only functional if limits are present and made explicit in a respectful manner. Social limits experienced in this way make the needs of others evident. Thus, growing up in this framework makes children co-operate naturally with others, and when becoming adolescents have a deep sense of community.

5.8.2 Environments' Preference Variables

Rachel and Stephen Kaplan (1989) examined factors important in personal preference to place. The understanding of these factors will help to place the previous literature in architectural context, and will form a basis for studying and analysing the case-study schools. Four factors determine such preference, these are: **coherence, legibility, mystery and complexity**, and these are discussed in further detail below.

a. Coherence

Coherence deals with the child's **sense of a defined place**. When a place expresses coherence, the physical aspects which command attention are major organising factors within the environment. This assumes a sort of hierarchy and relative impact between different elements, either with a central dominant feature, or appropriate spatial arrangement of features within the place.

Coherence fails when: 1. it is not **easy to perceive** the borders of a space,

2. elements are scattered with no obvious **interrelation**, and

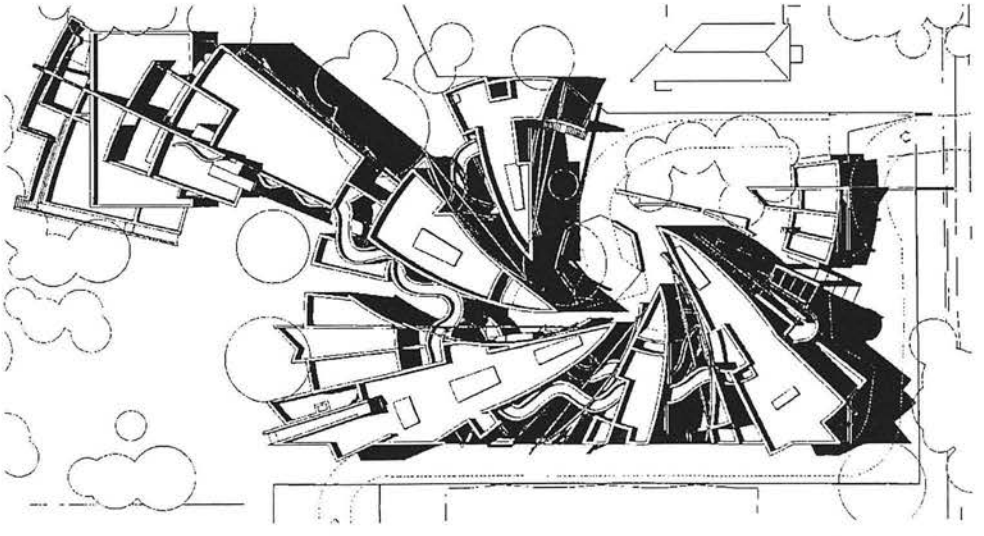


Figure (5-11) Coherence: example of a school that is not easy to perceive its boarders and element interrelations (Dudek, 2000).

3. the most visually attracting elements are **unrelated to the purpose** and use of the place, e.g. decorations relegated to the status of aesthetic 'add-ons' with no bearing to the cultural contextual purpose served by the place.

Applying this to schools, one can exhibit students' work along corridors for example, where everyone can see it. In addition to this fostering coherence and familiarity, Castaldi (1987) suggests that it promotes children's motivation, by providing a situation in which they enjoy feelings of accomplishment, recognition and approval. Reinecke (2000) confirms that **coherence** exhibits a strong relationship to how close the vocabulary of a place is to the individual's **original environment**.

School size is another factor that can strongly affects the level of a child's coherence to their learning environment. In a study of Greek schools, the analysis of pupils' socio-spatial schemata showed that they were significantly affected by the school size. Pupils from small schools had clearer images of their school's physical environment and more favourable attitudes towards school life (Papageorgiu-Sefertzi, 1984).

The same study adds that their sense of orientation and ease of moving about the school building, was inversely correlated with school size. Pupils from small schools acquired a greater sense of belonging and a deeper interest in school matters. More frequent feelings of loneliness, alienation and uneasy adjustment tended to characterise larger school complexes, particularly with younger age-groups. Children attending small schools are at an advantage where the easiness of social interaction and making friends is concerned.

b. Legibility

Legibility relates to the three-dimensional attributes of space, which afford a sense of security. It is concerned with the informational dangers of a place, or the perception of the **relative safety** to be enjoyed in that environment. Kaplan identifies a highly legible place as:

> *"the one that is easy to oversee and to form a cognitive map of."* (Kaplan & Kaplan, 1982: p. 50)

What is to be mentioned here too is that a school can be seen as a source of security and novelty through social interaction that supports the feelings of approval, prestige, exchanging love, esteem, and experiencing new and increasing knowledge. Providing

interesting spaces for specialised activities such as art, science, photography and computer, in a way that makes individuals and small groups experience new sources of shared knowledge and security, is thought to foster alike feelings (Mogren, 1992).

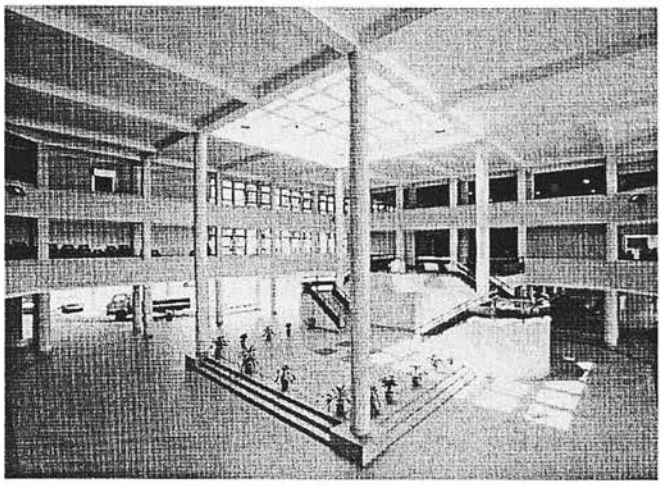


Figure (5-12) Legibility: St. Michael Primary School - Singapore, an example of spaces that are easy to oversee (IPA, 1998) © Alfred Wong Partnership Pty Ltd.

c. Mystery

Mystery is not to do with the presence of new information, but rather its promise. Kaplan (1982, p: 50) quotes:

> *"Mystery embodies the attraction of the bend in the road, the view partially obstructed by foliage, the temptation to follow the path 'just a little further' ... there is also the sense of control, a sense that the rate of exposure to novelty is at the discretion of the viewer".*

From this quotation, environments lacking mystery will be visually flat. They will generally be lacking spatial depth and have little or no restriction of views across the space. A place without depth or intermediate layers in the visual picture plane will be easy to predict and will create no real need for discovery, if one can take in the entire field at a glance. An environment that lacks mystery and sense of discovery is exhausted of potential, hence characterised by monotony.

A school environment should encourage intellectual curiosity, exploration, knowledge expansion and creation. In this regard, Castaldi (1987) believes that providing new technological devices, audio-visual equipment, computers, charts, models ... etc. is likely to encourage and stimulate the children into developing different abilities and creativity.

But even more important is the existence of the **gradual unfolding of experience** on progression through an environment. The space should stimulate exploration, with some

form of continuity from one experiential field to the next, so that feelings of insecurity do not arise through constant surprises. This continuity may be created either by physical structure through some element that links different experiences together, or through subtle visual links. For example being able to **glimpse through bushes** to the space beyond, through **level differences** which provide views down into a space, or maybe **winding corridors**.

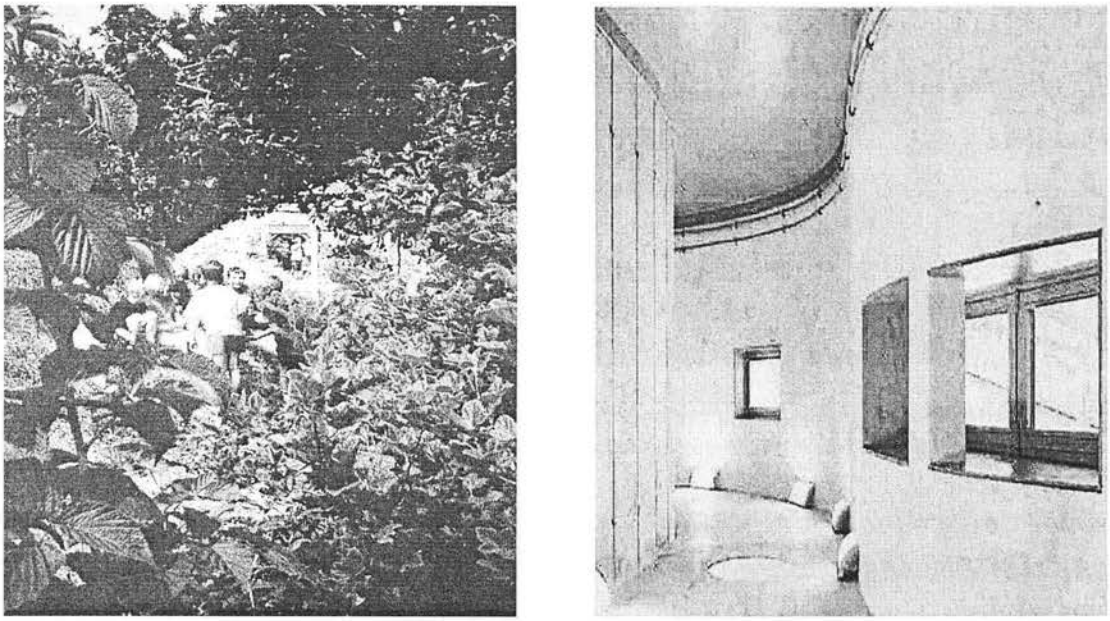


Figure (5-13) Mystery: examples of mystery in school environment.
To the left, the gradual discovery effect of a glimpse through bushes (Titman, 1994) © WWF UK / Learning Through Landscape.
To the right, the effect of a winding corridor, with the promising changes (Dudek, 2000).

d. Complexity

Complexity in this context relates to the **challenge**, i.e. the need for the child to encounter and continually **test his own limits**. Challenge used to be measured by the diversity inherent in the environment. A better measure is created when we assume that the child's choice of environment is inherently a projection of his own inner structure and experiential needs. This challenge relates to studying what occurs within both the social medium, and a diversely structured physical environment.

If a school's rooms and spaces are intended to meet precise functions at certain periods of time, the educational outcome may be easily predictable, and large measures of control may be encompassed. On the other hand, such **mono-functional spaces allow little or no possibility of imaginary interpretation**, which could result in negative effects on the children's personal development. School designers should encourage

individual creativity by producing buildings that are not confining and enclosing, i.e. **open to the surrounding context, gardens, external areas**, as an essential part of the 'learning environment' (Dudek, 2000).

Figure (5-14) Complexity: an open plan classroom can host a variety of activities [multi-functional] and is opened to surroundings [note large window openings] (Roth, 1966) © Architektur (Artemis) Zurich.

This can also be achieved by using abstract shapes. Architects should avoid easy sentiments in their designs. Overly playful ideas may merely patronise the natural aspiration of children to behave in a grown-up way within the school setting. In Disneyland for example, there is a lot of reference to teddy bears, animals and child-related forms in door handles and the like. Although children relate to these forms instantly, these very obvious and direct forms leave very little opportunity for imagination. Thus, using abstract animal shapes can promote a child's imaginative interpretation (ibid.). In this regard, Hertzberg quotes:

> *"... a thing exclusively made for one purpose, suppresses the individual because it tells him exactly how it is to be used. If an object provokes a person to determine in what way he wants to use it, it will strengthen his self identity ... therefore a form must be interpretable – in the sense that it must be conditioned to play a changing role"* (Hertzberger, 1996: p.95).

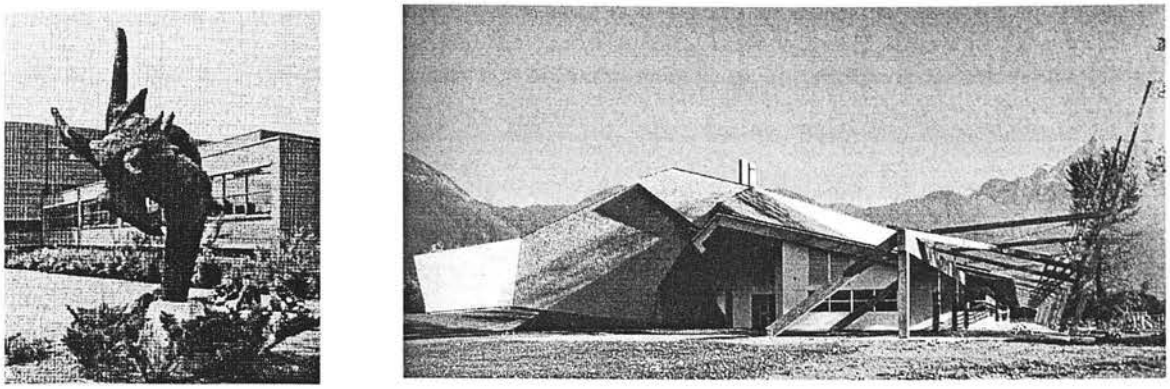


Figure (5-15) Complexity: examples of using abstract shapes in stimulating children creativity and imaginary interpretation.
To the left: using abstract shapes in school-ground landscaping (Peters, 1971).
To the right: Seabird Island Schools in Canada, using abstract shapes can be extended to school architecture (Dudek, 2000) © James Dow.

In relation to school architecture and child psychology, Frienet (1962) claims that education based on children's own initiative and activity can reach high levels of achievement with very simple means and poor surroundings, referring to the huge expenses of school equipment, finishing and furnishing (Wild, 1990). Similar examples were discussed under '5.5' of this chapter.

On the other hand, the AASA report (1960) [as well as many other literature highlighted at different occasions in this chapter] indicates that the quality of a school is to be determined by the child's sensitivity to the pleasantness and unpleasantness of the physical surroundings.

Such findings should be understood by architects and authorities who are to design and build schools. They should not neglect the humanistic dimensions nor to go too far in beautifying and ornamenting the buildings they produce. A balance should be fulfilled in order to accommodate human esteem, within, of course, essential economic parameters to achieve a satisfactory educational outcome.

5.9 Conclusion

Different theories of human need hierarchy should not to be seen as contradictory. They all provide complementary views to understanding the notion. We must not separate different hierarchies. Cognitive needs are not separate from basic needs. The two hierarchies are interrelated rather than dichotomised. Any danger to cognitive needs, any deprivation or blocking of their free use, also constitutes a threat to the basic needs themselves.

Piaget claimed that logical reasoning begins to take shape at the age of ten to eleven. Janov & Holden pinpointed that the age of seven to fourteen witnesses the most intensive development in terms of thinking, abstraction, speech, symbolism, logic conclusion and similar intellectual processes. Elkind identified the operational stage of learning to span between seven [or eight] and twelve years of the child's age, coinciding with the primary schooling age. The common age-range coincides with primary schooling. This stage of human life though, witnesses extremely crucial development. If appropriate education was thoughtfully provided at this stage, children would be likely to activate and enhance their genuine potentials. For this reason the present research is confined to the study of primary schooling.

Piaget, Janov and Holden, Elkind, and Maslow have all emphasised the significance of music, movement subjects, and free play and interaction with the environment for conscious and unconscious learning. This develops greater reciprocal dependency, social interaction, and carries out the process in an enjoyable atmosphere.

In relation to endogenous development, the application of Piaget's two play-types using local vocabulary that stems from the child's local environment, allows children to grow up with local values, and be able to interact with and respond to its variables in the future. This is preferable to the creating false environments and fake games that belong to different backgrounds and cultures. Reinecke (2000) adds that 'play' should develop the child's ability to exercise responsibility for their environment and understand the meanings behind their own actions.

The findings of experiential education, active learning and humanistic education show a strong tendency towards locality, participation and active social and environmental interaction to regain connection with the local environment. They confirm that increased interaction with the environment considerably enriches the child's vocabulary of symbols and examples, which they will need to use in the future. If this interaction was genuinely in harmony with the child's natural indigenous environment [that is not artificial], his experiences will emerge from genuine local vocabulary and backgrounds. Hence, he will be able to generate solutions that are more relevant to his environment. This, of course, is a critical element for successful endogenous development.

Maslow's ideas about learning to learn are supportive of endogenous development, as well as to self-actualisation. Self-actualised people protect and love their values, and if these values are threatened, they will be aroused to action and sacrifice. This attachment to local values experienced through self-actualisation also supports endogenous development, where individual attitudes and values are formed through social relations.

Reinecke (2000) concludes that coherence exhibits a strong relationship to how close the vocabulary of a place is to the individual's original environment. This is also a reflection of the level of individual participation and feelings of relatedness to place. The level of coherence achieved in a certain environment has an impact on the overall outcome with regard to endogenous development.

The open plan system responds to both principles of active learning and humanistic education. Rintoul and Thorne (1975) reported better achievement with children who have been used to this kind of learning from their earliest years in school. Older children coming to this kind of situation for the first time may behave badly. Therefore, this kind of education must not be suddenly introduced to schoolchildren overnight, it should be part of a long-term plan for change.

A school environment should consider the variables outlined by Kaplan, and avoid being hostile to children as discussed above. Dudek (2000) pinpoints a worthwhile hint for primary school design. There is a difference in the physical and psychological make-up of primary school children at the beginning [5-6 years] and end [11-12 years] of this stage, which necessitates a different approach to treating each age group.

This chapter ends Part Two, the theoretical framework. The thesis now moves on to the empirical work, where the theories discussed in previous chapters will be tested against the actual context.

PART THREE ...

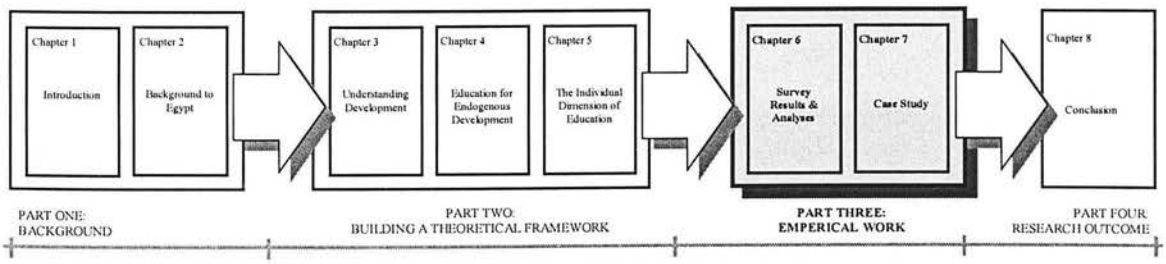
EMPIRICAL WORK

PART THREE

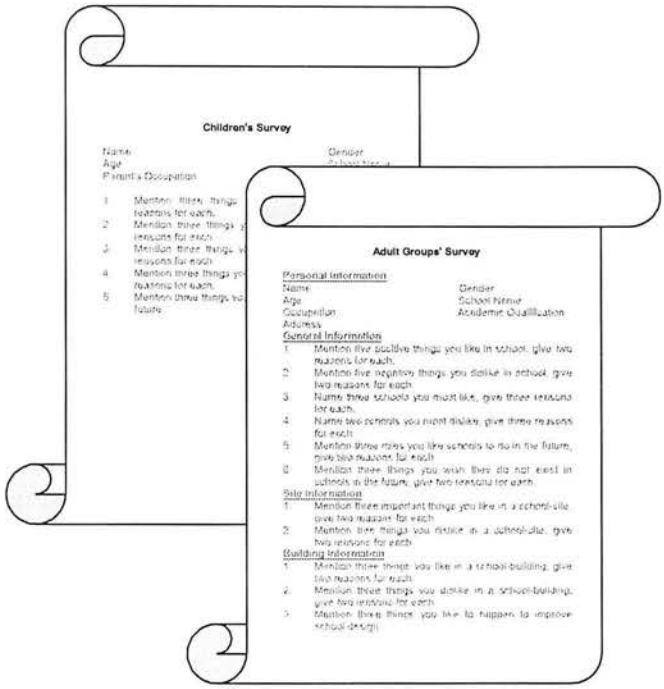
EMPIRICAL WORK

This part provides empirical confirmation of the theoretical framework introduced in part two. This is achieved through an open-ended survey. Chapter Six 'Survey Results & Analyses' explains the data collection methods, survey design, sampling, limitations, and analyses methodology. It then discusses the survey results and analyses them in relation to the theoretical approach of Part One.

Chapter Seven employs a case study to illustrate the practical application of the research findings to schools in Egypt. This case study involves primary schools in Cairo, which are all from the current governmental scheme schools.



CHAPTER SIX



SURVEY RESULTS & ANALYSES

Survey Results & Analyses

6.1 Introduction

Having, in the previous section, addressed the developmental and educational theories and paradigms, this chapter aims to explore their relevance to Egyptian people's perceptions, as well as discovering if other areas were not addressed in the literature. Rather than purely discussing theories, possibly dissociated from reality, this chapter supports the theoretical discussion with evidence from the actual real world context.

The qualitative approach is an exploratory one, being useful when a researcher is unsure of which particular variables are important to examine. This approach may be needed because the particular research topic has never been addressed with the particular sample or group of people under study, or because existing theories were not applied to this group (Morse, 1991).

A particular strength associated with qualitative data is that the descriptions and theories in such research are 'grounded in reality'. This is not to suggest that reality in some simplistic sense, is 'out there' waiting to be 'discovered'. But it does suggest that the data and analysis have their roots in the condition of social existence, with little space for 'armchair theorising' (Denscombe, 1998).

The most fundamental characteristic of qualitative research is its express commitment to viewing events, action, norms, values ... etc. from the perspective of the people who are being studied. The strategy of taking the subject's perspective is often expressed in terms of 'seeing through the eyes of people' (Bryman, 1995).

The qualitative approach is one in which the inquirer often makes claims based on multiple meanings of individual experiences, and meanings that are socially and historically constructed, with the intent of developing a theory, pattern, or issue-oriented study. In such cases, researchers principally collect open-ended emerging data, observations, interviews and documents, which could involve text and picture data, with the primary intent of developing themes derived from the data collected. In interviews, researchers involve unstructured or semi-structured open-ended questions that are few in number and intended to elicit views and opinions from the participants (Creswell, 2003).

Qualitative techniques have been used for a considerable period of time by sociologists undertaking classical studies. For example, Whyte (1943) studied street corner boys, Roy (1960) investigated industrial workers, and more recently Griffin (1985) studied transition from school to work, to mention but a few examples (Bryman, 1995).
In the following discussion, data collection methods and phases are described, as well as survey design, sampling, analyses, methodology and limitations.

6.2 Data Collection Methods

In addition to personal observation, the research adopted two other methods of data collection, open-ended questionnaires and semi-structured interviews.

In semi-structured interviews, the interviewer has a list of questions to be answered, in which they let the interviewee develop ideas and speak more widely about the raised issues. The questions are usually open-ended, and there is more emphasis on the interviewee elaborating points of interest. Semi-structured and unstructured are complementary, and in practice, it is likely that any interview will slide back and forth along the scale. What they have in common, and what separates them from structured interviews is the willingness to allow interviewees to use their own words, and develop their own thoughts. Allowing interviewees to 'speak their minds' is a better way of discovering things about complex issues, providing a better opportunity for in-depth investigations, particularly those which explore personal accounts of experience and attitudes (Denscombe, 1998).
The face-to-face interview involves direct contact between the researcher and the respondent. In such interviews, the researcher might expect higher response rates with more detailed and rich content than with any other survey approaches. Additionally,

face-to-face contact offers some immediate means of validating the data, where the researcher can sense if they are being given any false information (ibid.).

Denscombe (1998) suggests that face-to-face interviews are a more expensive way of conducting a survey than the use of post or telephone collection methods. Interviewer time and travel expenses are considerable. Arranging long meetings at times that suit the researcher and the large number of interviewees is another difficulty.
Thus, using questionnaires, which are widely used in environmental and social research, is a complementary method with a number of advantages which complement those of the face-to-face interview. For most people, the questionnaire was handed to them and collected later at agreed appointment. This was found to be easier and less stressful for some respondents, who preferred this method more than having to give immediate answers. When these people were given time to answer questions, they could consider more aspects and raise more issues than immediately replying with the first thing that comes to their minds.

6.3 Scope of the Survey

This survey aims to investigate people's attitudes, experiences and expectations of schools in Egypt. This is intended to find-out to what extent the discussed notions are relevant to the local educational domains and to explore any additional issues raised by the interviewees.
To achieve this, the questions were designed under a number of sections, as outlined below in '6.4 Survey Design'.

There may often be a problem for the qualitative researcher knowing through 'whose eyes he is supposed to be seeing'. School researchers have to be sensitive to the different perceptions of teachers, parents and pupils. Diversity of perspective within these three groups should be expected. In his study of a secondary school, Woods (1979) was able to draw out the different ways in which various groupings made sense of the institution and their position within it (Bryman, 1995).
Developing that methodology, this research targeted four categories of respondents. Those were school administrators, teachers, parents and children between nine and twelve years.

Obviously children needed a shorter and simpler version of the questionnaires to be appropriate for their age capabilities. This particular age range of children was studies since younger ages need special techniques of designing questionnaires, as addressed by many research methodologists. Such design requires specialist psychological knowledge and experience, which was unavailable due to financial and time limitations. On the other hand, older age-groups would be at different educational stages than primary, which is the concern of this research as outlined in Chapter Five earlier.

6.4 Survey Design

The questionnaire constitutes an important element in the present study, and special attention was placed on the wording of questions, trying to make them clear, direct, understandable and inoffensive.

The survey was arranged in four sections [as shown below], the first was 'personal data', and the second was 'general', which was made up of six questions. Then two 'site questions', and finally three 'building questions'. The children's survey consisted of only five questions all under one section, for the reasons discussed above.

The important thing to note here is that none of these sections, or even questions, was of particular importance for the aim of this survey on its own. They were all means of provoking people's ideas, and encouraging them to bring-about more notions at wider and/or deeper levels. The researcher was not keen to know the names of favoured or disfavoured schools for example, rather the reasons behind such nomination was the important criteria. It is all a process of stimulating people's minds to generate variables that are associated with such schools. Similarly, no distinction in the analysis was to take place between aspects and reasons, it was all formulated in this way to provoke people into speaking more about relevant notions and issues.

A pilot study was carried out amongst a small sample of respondents. Following this pilot study, the wording of questions was modified to enhance their clarity. A few questions were eliminated because their phrasing was found to reflect some bias by the researcher, and all subjects from the pilot sample gave similar responses to them. Another reason for such elimination was to bring response timing to a reasonable average of ¾ - 1 hour, to avoid boredom and tiredness. Face-to-face interviews were likely to take longer duration, depending on interviewee's time and attitude.

One thing that did not show a sign of creating problems in the pilot study was that the questionnaire began with the collection of personal data. After the final analyses it appeared that some people did not like this aspect, probably finding it to be somewhat offensive, as in age and social level inquiries for example.

Shown below is a translated version of both surveys. These were originally distributed in Arabic, being the local language in Egypt. Thus, the translation of some phrases may not be literally accurate, but it does give a general idea of the nature of the questions.

Adult Groups' Survey

Personal Information

Name
Age
Occupation
Address
Gender
School Name
Academic Qualification

General Information

1. Mention five positive things you like in school, give two reasons for each.
2. Mention five negative things you dislike in school, give two reasons for each.
3. Name three schools you most like, give three reasons for each.
4. Name two schools you most dislike, give three reasons for each.
5. Mention three roles you like schools to do in the future, give two reasons for each.
6. Mention three things you wish they do not exist in schools in the future, give two reasons for each.

Site Information

1. Mention three important things you like in a school-site, give two reasons for each.
2. Mention three things you dislike in a school-site, give two reasons for each.

Building Information

1. Mention three things you like in a school-building, give two reasons for each.
2. Mention three things you dislike in a school-building, give two reasons for each.
3. Mention three things you like to happen to improve school design.

Figure (6-1) Adult groups' survey questions.

Children's Survey

Name
Age
Parent's Occupation
Gender
School Name
Address

1. Mention three things you like in school, give two reasons for each.
2. Mention three things you dislike in school, give two reasons for each.
3. Mention three things you like in classroom, give two reasons for each.
4. Mention three things you dislike in classroom, give two reasons for each.
5. Mention three things you like to happen to school in the future.

Figure (6-2) Children's survey questions.

6.5 Sampling Methodology

Researchers who conduct small-scale qualitative research studies find it hard to adhere to the principles and procedures of 'probability sampling' [e.g. quota sampling, cluster

sampling]. Either it is not possible to include all types found in the population within a small sample, or not enough is known about the characteristics of the population to decide which people are suitable for inclusion in the sample. This is why selection of the sample in such research tends to be based on 'non-probability sampling'. With qualitative research, people are not necessarily selected as being representative or normal instances [i.e. non-probability sampling]. It is possible that the selection includes special instances - ones that are extreme, unusual, best or worst. This leads to further variation in the collected data, and can generate a broader spectrum rather than a narrowly focused source of information. This is in line with the spirit of qualitative research and its quest for explanations, encompassing complexity, subtlety and even contradictions (Denscombe, 1998).

Explained below is the 'purposive sampling' technique, used in this survey. Denscombe (1998) states that this term applies to those situations where the researcher already knows something about the specific people or events and deliberately selects particular ones because they are seen as individuals likely to produce the most valuable data. In effect, they are selected with a specific purpose in mind, and that purpose reflects the particular qualities of the people chosen and their relevance to the topic of the investigation. The advantage of 'purposive sampling' is that it allows the researcher to include people for which there are good grounds for believing they will be critical for the research. It might be informative in a way that conventional 'probability sampling' cannot be.

In addition to this method, the research needed to utilise 'snowball sampling' method to increase the number of interviewees. 'Snowball' technique is primarily a process of reference from one person to the next, in which each respondent can be asked to nominate other people who would be relevant to the purpose of the research. These nominations are then contacted and included in the sample. One advantage of 'snowball' technique is that the researcher can approach new persons having been, in a sense, sponsored by a person who had named him. The researcher can use the nominator as some kind of reference to enhance his credibility, rather than approach the new person 'cold'. The 'snowball' technique is completely compatible with 'purposive sampling', where people can be asked to nominate others who meet certain criteria for choice (Denscombe, 1998).

Although surveys and sampling are frequently used in small-scale research, it is recommended that researchers involve between 30 and 250 subjects, whatever the theoretical issues. In the case of qualitative research there is different logic for the size of the sample and the selection of cases to be included. A small size is quite in keeping with the nature of qualitative data (ibid.). The following discussion outlines the characteristics and numbers of the sample included in this survey.

6.6 Involved Sample

The final number of responses included was (84) adults and (36) primary schoolchildren, out of (106) adults' questionnaires and (50) children's questionnaires initially distributed. It should be noted that, out of the received questionnaires, there was one invalid teachers' questionnaire, one invalid parents' questionnaire, and two invalid questionnaires from children. Invalidity resulted from two reasons, the first was return of in-complete questionnaires, and the second was age inappropriateness, which occurred in one of the children's questionnaires.

The sample included different ages, genders and social groups, to include a wide cross section of respondents, and to obtain a global view of the influential variables affecting school image and perception. The following tables describe the profiles of respondents, starting with adult groups and following with children.

Age:

		20-29 years	30-39 years	40-49 years	50-59 years	60 years & over	Unmentioned	Total	
Administrators	Male	-	-	4	6	2	-	12	28
	Female	5	2	3	5	-	1	16	
Teachers	Male	7	3	-	-	-	-	10	26
	Female	12	3	1	-	-	-	16	
Parents	Male	-	3	5	1	1	-	10	30
	Female	2	12	1	2	-	3	20	
Total		26	23	14	14	3	4	84	

Table (6-1) Age distribution amongst the three adult categories, identified by gender.

It can be seen from the above table that the majority of administrators are between 40-59 years of age. This is a result of the system of promotion based upon seniority, which was discussed earlier in Chapter Three with the 'reactivist' attitude to development, and

the adoption of 'classic organisation theory' discussed in Chapter Four. The same principle explains why the majority of teachers range between 20-39 years of age.

Social Standard:

		High	Medium	Low	Unmentioned	Total	
Administrators	Male	1	5	6	-	12	28
	Female	2	3	10	1	16	
Teachers	Male	-	5	5	-	10	26
	Female	1	2	13	-	16	
Parents	Male	5	2	3	-	10	30
	Female	11	4	5	-	20	
Total		20	21	42	1	84	

Table (6-2) Social standard distribution amongst the three adult categories, identified by gender.

Due to their low salaries, a large proportion of teachers and administrators live in poorer housing of a lower social standard. Further discussions regarding this factor are included in the following analyses.

School Type:

		Private School	State School	Unmentioned	Total	
Administrators	Male	6	6	-	12	28
	Female	6	10	-	16	
Teachers	Male	5	5	-	10	26
	Female	4	12	-	16	
Parents	Male	3	5	2	10	30
	Female	10	8	2	20	
Total		34	46	4	84	

Table (6-3) School type distribution amongst the three adult categories, identified by gender.

The above table shows the number of respondents associated with each type of schooling, to illustrate the proportions of each category involved in the survey. Larger numbers of teachers responded from state schools. Private schools were more strict about allowing teachers time to complete questionnaires during working hours. Thus, many private school teachers had to complete their applications at home, explaining the lower response rate for this group.

Parents' Occupation:

	Housewife	University Staff	Engineer	Officer	Labour	Employee	Computer Prog.	Doctor	Lawyer	Draftsman	Total
Male	-	1	3	1	1	1	-	1	1	1	10
Female	7	2	2	-	3	2	2	2	-	-	20
Total	7	3	5	1	4	3	2	3	1	1	30

Table (6-4) Parents' occupation distribution identified by gender.

Obviously, this table did not include teachers and administrators, because their occupation was already part of their inclusion within the sample. Parents' occupation could be an indicator of both financial and social standard. It was also noted that the majority of forms returned by parents were completed by mothers. The number of housewives in this table suggests that mothers acting as housewives may have more time than their working male counterparts.

Parents' Education:

	Post Graduate	University Degree	School Degree	Illiterate	Total
Male	1	6	2	1	10
Female	3	12	2	3	20
Total	4	18	4	4	30

Table (6-5) Parents' education distribution identified by gender.

Again, as in the previous table, the vast majority of teachers and administrators were university graduates. This is why this table only addresses parents' educational status. The high ratio of university graduates reflects the fact that this group of parents were more accessible and more willing to co-operate with the study. Some of the less educated parents refused to respond at all. The lower number of post-graduate parents is directly proportional to their level of representation in the society.

In the following section, the general characteristics of the children interviewed in the study is discussed.

Children's Age:

	9 years	10 years	11 years	12 years	Total
Male	2	6	4	3	15
Female	5	5	6	5	21
Total	7	11	10	8	36

Table (6-6) Children's age distribution identified by gender.

As detailed earlier, participating children all ranged between nine and twelve years of age.

Children's Social Standard:

	High	Medium	Low	Total
Male	1	10	4	15
Female	4	9	8	21
Total	5	19	12	36

Table (6-7) Children's social standard distribution identified by gender.

The majority of high-standard level children study at very strict private schools, which prevented interviews from being conducted with them. This stratum was approached through friends and family relations, resulting in a low representation.

Children's School Type:

	Private School	State School	Total
Male	7	8	15
Female	12	9	21
Total	19	17	36

Table (6-8) Children's school type distribution identified by gender.

Other private schools of less strictness allowed access to the school, wandering around, and meeting with children and staff. These schools were in less favoured areas, and were approached through personal contacts with the school management bodies.

Children's Parental Occupation:

	Private Business	University Staff	Engineer	Officer	Labour	Employee	Teacher	Doctor	Lawyer	Unmentioned	Total
Male	1	-	-	2	3	5	2	1	-	1	15
Female	1	1	2	3	2	6	2	2	1	1	21
Total	2	1	2	5	5	11	4	3	1	2	36

Table (6-9) Children's parental occupation distribution identified by gender.

The above section outlined the general characteristics of the samples of both children and adult involved in the surveys. Inclusion of this information in the study provides greater opportunity for interpretation of the data and opens the way towards more detailed studies and future publications benefiting from cross tabulation and variables' correlation.

6.7 Obstacles and Limitations

Time and financial limitations did not allow for the involvement of specialist psychologists to provide appropriate means for interviewing younger primary schoolchildren. These factors also prevented expansion of the study beyond the objectives highlighted above. The researcher is aware of the potential outcome of this survey subject to further analyses [e.g. cross-tabulations, correlation analyses, factor analyses ... etc.], and is intending to execute these in future studies and publications.

Convincing people to take part in the study was difficult for three main reasons. First, some respondents were afraid of repercussions from their bosses if they express dissatisfaction about their policies, as was also the case with some pupils who were afraid of their teachers reactions [typical inactivist view: 'not doing something right is better than doing something that is not right', see Chapter Three]. The second was that a number of recent under-cover visits had been carried out by journalists who subsequently published negative articles involving school names. These articles provoked the Ministry against the staff of these schools', with serious implications for their careers. Even having an official permit would not solve this difficulty. Such barriers were only overcome through friends and family contacts, who in turn were part of the 'snowball' technique explained above. The third was lack of trust in such studies, resulting from the fact that so many had been undertaken in the past, with little or no official response to their recommendations.

Direct contact with schoolchildren was not permitted in many situations, which has affected the children's sample. This was particularly the case in the distinguished private schools, and other schools approached via less influential contacts.

The nature of open-ended questions was seen by the respondents as hard in comparison with multiple choice, putting a number of people off completing the questionnaires.

'Social desirability' is one common problem in all survey studies. This phenomenon refers to people saying what they believe makes them look 'good' rather than what they

really think. Although this is not specific to this particular survey, it must be kept in mind during the data analyses. This phenomenon also appeared in the case of some respondents when addressing technical building issues. Knowing that the researcher was an architect, and wanting to give the responses they though would please him. However, these notions were borne in mind throughout the analyses.

Another point that delayed this study was the timing of school examinations. During exams schools are in a stressed environment and tend not to welcome in any researchers or visitors. Thus, the researcher had to wait until the examinations period ended before conducting the study.

In its final version the questionnaire was conducted in Arabic. The design process was in English to be able to consult statisticians and supervisors in Britain. This may be reflected in some imprecise translations of the English versions of the questions.

6.8 Analyses Methodology

In qualitative research, the main concern is with meanings and the way people perceive things. Human activity is seen as a product of symbols and meanings that are used by members of the social group to make sense of things. Such symbols and meanings need to be analysed as text, to be interpreted rather like a literary critic interprets a book (Denscombe, 1998).

Qualitative research is fundamentally interpretive, i.e. the researcher has to make an interpretation of data throughout the stages of description, analyses and drawing conclusions (Creswell, 2003).

The nature of qualitative studies is characterised by a notable tendency to present data as if they were pure and untouched by the act of research itself, like including quotations from interview / questionnaire transcripts. However, among many qualitative research theorists and practitioners there is a common acceptance that researcher's self is inevitably an integral part of the analysis, and should be acknowledged as such. It is believed that the researcher's self plays a significant role in the production and interpretation of the qualitative data. The researcher's identity, values, beliefs, experiences and backgrounds cannot be entirely eliminated from the process. For example, feminist researchers claim that only a woman can truly grasp the significance of factors concerned with the subordination of women in a society (Denscombe, 1998).

When the personal self becomes inseparable from the researcher self, this represents honesty and openness to research, acknowledging that all inquiry is laden with values (Mertens, 2003).

Having gone through a number of books, studies, and theses undertaking and explaining means of qualitative data analyses, the following scenario was devised for analysing the data obtained from this survey.

After collecting the questionnaires, a back-up copy of all original responses was made and kept safe to prevent any loss. One of these sets was then used as a 'working copy'.

A general reading through all the questionnaires was undertaken to obtain a general sense of the information and be able to reflect on its overall meaning. This also helped to broadly understand the ideas participants expressed, and create a general impression of their overall depth. A selection of responses which are thought to cover a wide range of addressed notions are translated to English, and included under '6.9 Personal Profiles', to enable readers build general impressions of the content.

On the working copy, a primary process of coding was carried out. In order to categorise responses under a group of phenomena or names, certain words or codes were attached to the transcript. Coding, in other words, is a process of organising the material into chunks, which involves taking text data, segmenting sentences into categories, and labelling those categories with terms [which are often based in the participants' language], and undergoing a series of refinements as the process progresses.

The following step was the piling process. In this process, the frequency of every code is summed to identify the number of times it was referred to by each category of respondents. A full record of the piling of every question is provided in Appendices B and C at the end of the thesis.

The main concern of this survey was to explore the relevance of the previously discussed theories to the Egyptian context and revealing people's perception of them. No particular significance was given to the individual questions in the current analysis, although reference was frequently made to questions which were important in the

following interpretation. Thus, a table of the overall frequencies observed in the survey was created in preparation for the analytical interpretation to follow.

The analytical interpretation followed descending order, starting with the highest frequency. The frequency of a particular variable is first highlighted then its relation to correlated variables [as highlighted by people] is manifested, and explained in the light of preceding theoretical discussion.

It should be noted in accordance with research methodologies that in such analysis, authors may suggest that the findings either confirm past information or diverge from it. The findings can also suggest new questions that need to be asked - questions raised by the data and analysis that the researcher had not foreseen earlier in the study.

6.9 Personal Profiles

In this section, a translated version of some responses representing the majority of raised points are discussed. Literally accurate translation from Arabic to English was not possible, and this was resolved by trying to introduce the general essence of the included responses. This was intended to familiarise readers with the general theme of received feedback.

1) Manual labour parent, 55 years old male, illiterate, living in a poor quarter.

In spite of his illiteracy, this man had highly enlightened and profound views, encouraging the researcher to include his responses within this section. He could address areas at broad levels without committing himself to particular questions. He raised the following points.

- Education should be delivered to all, including all staff members from headmasters to janitors. They all need to learn about ethical values like honesty and devotion, to be able to contribute to the development of our country, and contribute towards establishing sound future generations who will be the base of good community.
- Private lessons should be stopped, they are a huge financial burden on families, and turn the relationship between pupils and teachers to be merely financial and materialistic.
- Taking care of activities, sports, library, gardens and entertainment, there should be comprehensive care of all children's needs.

- The school environment should be healthy with fresh clean air, and pleasant colours making the school as beautiful as paradise. Aesthetics are principal for everything in life.
- Teachers sometimes tell children to make their parents explain the lessons to them, which is not possible for illiterate people like me.
- School day arrangement should be better, dividing the school day amongst three different groups, leaves two groups of pupils in the streets until the third finishes, and this involves them in learning inappropriate things.
- Religious up-bringing is very important. Churches for example play an important role in this, involving children in learning good ethics besides playing and entering competitions, they become capable to face all life situations in the future. Learning and education were emphasised by Prophet (pbuh) to teach people about religious and secular matters. Sticking to religious values and faith gives children strength and self-confidence. Religion is the basis for everything in the world.
- Teaching methods should respond to difference in pupils' abilities, to give further help to weaker ones, and give scholarships to more distinguished ones.
- Teachers should not threat parents, they usually do this to force children attend to their private lessons, otherwise they fail them. Such private sessions should be a way of expressing solidarity between parents and teachers, rather than a commercial project.
- Attending to pupils' social problems by experts, providing aid to poor families in a way that does not upset children's psychology.
- Ethical poverty is a big problem, which sometimes starts at home when parents spoil children. This brings them up impolite, and they undertake destructive undisciplined behaviours.
- Discipline should be characteristic to pupils as well as to teachers and administration.
- Parents interference sometimes takes bad ways, and this causes harm to their children's characters.

When this gentleman was asked about schools he liked, he named two schools for the following reasons:

- Good disciplined manager, who goes too early and takes care of everything personally. He is warm and always welcoming. He treats pupils very well.
- Disciplined hardworking teachers.
- Teachers co-operation and collaboration with parents.

- Having two different entrances.

On the other hand he outlined a school he did not like. The reason he disliked it for was "they are not honest to pupils". Whereas the future role of school, as he viewed it, was to follow these points:

- Commitment to God's commandments, so that children would know their objectives in this life, and care about their life as well as the hereafter.
- Laying more emphases on religious education, to bring children up on sound religious bases.
- Expanding knowledge, to become more developed, and be proud of ourselves.
- Learning all foreign languages, to be able to communicate with others.
- Eradicating illiteracy. Concentration on children is most important, because elderly are going to die, youngsters are the hope for future, they are the source of every possible development.

The things he wanted to vanish from schools were:

- Lying at all levels: pupil, manager, janitor ... etc. because this brings trust and blessing, and ends the current state of weakness, which is originally weakness in faith.
- Nepotism, everyone wanting things from the school has to find openly listening people who would honestly respond to his requirements, so that everybody receives his rights fairly.
- Private lessons.

His view of the school site was to involve:

- Infrastructure availability, for better hygiene standards.
- Lively place, for the sake of children's safety.
- Far from canals, where microbes augment and cause diseases.
- Spaciousness.
- Quiet.
- Far from bad odours.
- Far from refuse and dirt.
- Overlooking a small quiet street, for children's safety.
- Not too close to residential buildings, so that residents do not interfere with learning process, and children won't invade their privacy.
- Far from cemetery, because it has bad odours and affects children's psychology.

Whereas for the school building, he highlighted the following notions:

- Toilets should be at a reasonable distance from classrooms, so that pupils in their classes won't be disturbed from others going to the toilets, nor from any bad odours. Toilets place should not be exposed, so that children won't see one another in inappropriate situations.
- Good ventilation, for health considerations.
- There should be a mosque or a prayer room in school, where children will receive knowledge, which their parents may not be able to conduct to them.
- Playgrounds, gardens and swings, so that children's free time won't be wasted doing wrong things. These also contribute to air purity, children entertainment, and providing sport-champions.
- It is to be regarded in playgrounds, that they are placed relatively far from classrooms, to avoid noise transmission to studying children.
- The building should not be too high, one or two stories will be just suitable. In case of earthquakes, there is higher possibility of survival. High buildings may cause children serious injuries too. Schools used to be in mosques, so they should be one story like mosques.

The most important things he outlined in regard to improving school design were:

- Emphasising the aesthetic qualities of the building.
- Making sure it expresses its function. Its form should be distinctive from a house or a palace.
- Green areas and gardens are to be included.
- Caring for safety regards in elements' allocation [e.g. power transformer room not accessible to children].

2) Dentist parent, 26 years old female, university graduate, living in a high-standard quarter.

This lady started listing her preference as follows:

- Spacious courtyards, classrooms, playgrounds and green areas. This is important for children's health and happiness.
- Good ventilation, illumination and cleanliness throughout the whole school premise, for children's hygiene, and because good lighting gives impression of spaciousness, which has pleasant psychological influence.
- Having all sorts of activities like cooking, handcrafts, sports and music, to enhance children's talents, and form balanced personality, as well as discharging their energy are beneficial things.

- International pupils exchange, to widen children's perspectives and perceptions.
- Friendly beautiful buildings, with pleasant colours and good quality materials, to allow a sense of psychological comfort. The first impression is very important in liking or disliking the place.
- Delivering high academic, educational and ethical standards, so that parents will not be worried about their children spending long time at school, where they are highly influenced by their teachers and colleagues. This also contributes towards shaping a balanced personality for pupils who would have organised thinking, rather than filling their heads with certain amount of knowledge to be examined in.
- Providing a clinic for emergencies and periodical medical check-up.

Where the negative things she mentioned were:

- Caring a lot about fancy outlooking, because children feel jealous and imitate one another what turns to preoccupy them on the expenses of sound personality bringing-up.
- Unstable educational policies, which confuse parents and pupils.
- School management should be strict, organised and disciplined, because organisation is the basis for everything.
- Study timing needs to be arranged better throughout the year. Children get long summer vacation, then schools crash the curricula in short period. This is very uncomfortable to children.

The schools she mentioned she liked were characterised by the following:

- Excellent educational system.
- Reasonable timetables.
- Balanced study/vacation timing.
- Giving the children opportunity to rest and play at home in the afternoons, with little or no homework.
- Involving parents in their children's schooling, and participating in school activities.
- Good standard of taught languages [English, French and German].
- High social standard.
- Central location.
- European teachers.
- Awarding international degrees.
- Teaching good Arabic.
- Emphasising religious tutoring.
- New school buildings.

- High academic standards.
- Minimal State interference.

Where the undesirable schools were characterised with:

- Poor imitation of successful foreign schools.
- State interference in every detail of school systems.
- Small areas.
- Located on the city outskirts.
- Poor standard of management.
- Unqualified, dishonest and not hardworking teachers.
- Lacking primary regards of cleanliness and hygiene.

The lady expressed her wishes for the future schools to possess the following:

- Caring for ethics.
- Commitment to our local culture.
- Laying further emphases on religious education.

When asked about what she wished not to see in the future school, she said that she very much misses the sense of belonging to school. It is our right to feel part of this school, to belong to it as long as my child is there, teachers should have a great role in fostering this. It should be a family-like warm atmosphere, not a mere place for delivering information. It is a small world for our children.

As for the school location, she suggested it should be:

- Close to home, for easy transportation and time saving, as well as having the children friends around to create their own society.
- Not close to traffic congestion, to allow healthier environment for children, and to allow future expansion.
- Safe, particularly in regard to crossing streets.
- No nearby cafeterias, not to encourage children eating unhealthy food, and not to waste their time after school going there, rather than getting back home quickly. If there were nearby bookshops or stationary shops it would be better.
- It should not be far form the city, I mean not at the city outskirts, because if it was a very long distance, with unpaved roads, and very few people around, it would not feel safe.

When the conversation came to particular aspects of building, she outlined the following points:

- Architectural outlook of the building.

- Architectural design in regard to element distribution, classrooms, laboratories, playgrounds. There should be continuity and fluidity in their arrangement to allow children move around easily.
- Spaciousness.
- The building form should reflect its function.
- Good selection of exterior colours.
- Good selection of flooring. For example tarmac floors are tough and painful when children fall down, unlike softer sandy floors, which cause another health problem for allergic children when subject to provoked dust.

The most important things she outlined for improving school design were:

- Involving children and taking their opinions.
- Caring for children's physical and psychological comfort.
- Paying particular attention to safety regards.

3) Teacher in a small private school, 23 years old female, university graduate, living in a poor quarter.

The lady teacher starts her responses outlining the things she most likes in school as:

- A big library with a large number of books in all disciplines, to develop children's cognitive abilities, because the school is not merely a place for delivering information.
- Dedicating special care for art and music activities, to discover and enhance children's talents, as well as developing their creativity.
- Dedicating large areas for sporting playgrounds, to achieve sound physical and mental build-up, respond to children's hobbies, and enhance their ethics by encouraging co-operation.
- Having lots of ceremonies in different occasions, because children always look forward to participating in these celebrations, what gives opportunity to show their artistic talents like singing, saying poetry, reciting Qur'an and religious anthems.
- Having vast gardens and fields to purify air from pollution, and to give an aesthetic view.

Where the things she disapproved about schools were:

- Dividing the break timing amongst different ages, because this means causing noise while others are studying, and some pupils from different classes keep interrupting classes that are run during their break time to see their brothers and sisters.
- Sandy playgrounds harm children's hygiene and affect the general aesthetic outlook.

- When the administration depends on disqualified janitors, they usually cause problems handing documents to wrong persons.
- Insufficient school busses necessitates all ages to mix, which makes youngsters cry and hate school, and additionally means wasting more time to get home.
- Accepting pupils without interviewing them and their parents. If parents education was little, they are unlikely to be able to help their children learning, which affects the overall school reputation.

Schools she preferred are characterised by:

- Large green areas to reduce pollution and give aesthetic view.
- Providing modern laboratories, computers, and good facilities.
- Catering for children's educational, artistic and cultural needs.
- Qualified teachers.
- Good management.
- Dedicating special care for reading, music, and all sorts of activity.
- Good reputation.
- High quality of education.
- Entertaining children as well as teaching them.
- Good location.

Where the schools she did not like were the ones with:

- Small courtyards, which do not allow children to play.
- Overcrowded classrooms.
- Bad management.
- Tough teachers.
- Bad location.
- Small areas.

She identified the future school roles under the following:

- Encouraging everybody to read, because reading is the only hope to develop in the future, and because I love my school and want it to be pioneering in this area.
- Schoolchildren should participate in local, national and international competitions, and achieve distinctive results, because sport allows sound physical and mental build-up, and acts as a motivator for excel.
- Providing equipped activity rooms and encouraging celebrations and ceremonies to discover and enhance pupils' talents.

The things she did not want to see in the future schools were:

- Lacking sufficient toilets in every floor, because this wastes time and effort, particularly for ill or disabled persons.
- Making teachers supervise children in break time, because teachers need break times to socialise, rest, and do some preparation and correction for their pupils' work.
- Soft treatment of latecomers, because this affects the time of the first lesson, and makes children less disciplined and more reckless.

As for the site, she preferred the school to be:

- Close to home, to calm down parents' worries about their children safety on their way to school, as well as being a good service for the neighbourhood residents.
- Close to a medical centre, to treat injured children if subject to any accidents.
- Close to fire station, to save the school in the event of fire, and minimise the material losses.
- Clean and far from polluting sources, not to affect children's health.
- Surrounded by greenery and flowers, to renew and improve the quality of air, and to add an aesthetic view to the school.

From her point of view, school site should avoid:

- Being too close to surrounding residential buildings, because this makes neighbouring residents very close to the details and events of school day, which disturbs children and distracts their concentration. Additionally, this causes disturbance to residents, with the noise caused in morning assemblies and break times.
- Being close to factories and workshops, to avoid the pollution caused by their exhausts and smokes, as well as the noise which affects children concentration and attainment.
- Being close to canals and dirty places, not to affect children's health nor their aesthetic perceptual values.
- Badly built or unpaved roads, because this hinders traffic to school and makes people arrive late. This may also cause serious accidents to pedestrians and vehicles.
- Being far from medical and fire services may cause losses in lives and possessions.

Her preference for school building were:

- To have multiple staircases to avoid children's injuries or bumps when jammed in one tight staircase, as well as dedicating a separate staircase for visitors, not to come any close to classrooms, giving children the quiet and concentration they need.
- Designing the school in a way that regards allocating pupils in regard to their ages, so that older groups will not cause any harm to youngsters.

- Providing safety means and fire extinguishers near laboratories and activity rooms.

Where she did not like the following aspects in school buildings:

- Closely overlooking residential windows, not to affect children concentration. A green strip should alternatively surround the school rather than other buildings.
- Poor lighting and ventilation, because lacking this makes pupils feel bored, and natural sunlight is good for children's health.
- Classrooms overcrowding.
- Aesthetic poverty in the buildings' outlook.
- Disregarding age differences in classroom allocation.

Finally, the major regards she believed would improve school design were:

- Good site selection and design, in which all negative factors like bad roads, being far from other services, and being close to factories and residential buildings, are eliminated.
- Responding to all pupils' rights, having libraries, playgrounds, gardens and well equipped activity rooms.
- Providing suitable area for the large number of pupils.
- Providing utilities, good blackboards, and fire extinguishers.
- Having suitable number of windows for natural ventilation and illumination.

4) Head of one Educational Sector in Cairo, 59 years old male, university graduate, living in a medium-standard quarter.

He pointed out the most important things for him in a school under the following points:

- Children participation in various activities, to develop their talents, fulfil their needs and consume their energy in beneficial ways.
- Encouraging children to read by providing good libraries with books about different disciplines, in order to improve their knowledge, foster their cognitive development, and fulfil their desires.
- Utilising homework in a way that encourages reading and extracting conclusion, to be self-dependent, and to free pupils from memorising and being negative receptors.
- Encouraging pupils to undertake research work, to develop their talents and prepare them for the following educational stages.
- Meeting parents regularly and informing them about sound educational methods to participate in preparing good future generation, which is properly brought-up to avoid bad habits like smoking, because the parent is an example for his children.

Where the most undesirable parameters in school were:

- The continual contradicting changes in educational policies, associated with every changed Minister, to respond to particular agendas. This could destroy the whole future of education. Lacking the required seriousness in such aspects allows the interference of disqualified people in the field of education. This is why the standard of education is deteriorating compared to how it used to be in the past, with a notable reduction in pupils' level. This can be seen in the linguistic and dictation mistakes done by many university students, which are rooted at the primary education. I could even see this in some teachers' preparation-books.
- The omission of the sixth year from primary schooling in 1991 was a disastrous decision.
- Continual change in curriculum causes harm to the process of education, and affects children culturally, socially ... etc.
- Low standards of living decreases the opportunity of poor families to send their children to schools, where the richer strata are capable of hiring private teachers for their children and sending them to good private and foreign schools. Due to extreme wealth, the community gets split between very rich and very poor strata, which takes us back to the time of colonisation where the majority of local people were deprived from development.
- If we look at the Arab countries, for whom the best Egyptian teachers work, we will notice that these countries have developed for not having such stratification in education. Additionally, states there provide good care for all people, not to allow certain category of them abuse the others. And applying equal opportunity policies, which used to be adopted in Egypt fifteen years ago, when poorer strata children could prove their abilities to be successful in distinguished colleges like medicine, engineering, police, and military. What also proves this is that some of those are still the current leaders in these areas, as a result of applying equality in opportunity called for by the 1952 Revolution led by late President Gamal Abd El-Nasser, who was sincere to his country and fair to less favoured people.

The schools he liked were characterised by:

- Raising educational standards.
- Promoting school activities.
- Enlightened management.
- Distinguished teachers, who work sincerely to improve the quality of education and develop their financial status, through additional lessons arranged by the school, to limit the influence of private lessons in their quarter.

- High parental social standard.
- Good surroundings, that the children are all from my quarter, whose residents are reasonably educated and enlightened.
- Disciplined administration with teachers and pupils.
- Improved reputation.

While the undesirable schools' characteristics are outlined hereunder:

- Bad surroundings, that this school is near slaughterhouse, and the majority of people residing this area work as butchers, whose ethics are not good, and characterised by using impolite words. This automatically reflects on pupils' ethics.
- The majority of this area's residents are very poor, and do not care about schooling nor about supporting school's role, not even by fulfilling their role in sound bringing-up of their children.
- Staff-members harshly fight against one another for recruiting more private pupils, which has serious negative implications to education quality, and poorer children's opportunities to improve.
- Parents' illiteracy, with its obvious reflection to children's educational standards.
- Widely spreading negative habits, like smoking and drugs … etc.

He wanted future schools to respond to the following roles:

- Enlightening children culturally, hygienically, socially and politically, in accordance with their cognitive abilities, so that they become good citizens in the future, who are aware of what happens in their society. This will make them effective in the development of our beloved country.
- Pupils participation in eradicating illiteracy to be good citizens who benefit their community, family and country.
- Hygienic instruction about contagious diseases and dangerous insects, so that children conduct the message to their homes and communities.
- Children should enlighten their colleagues and friends about political and social problems like family planning programs, because unplanned population increase destroys every development endeavours the Country undertakes.
- Enlightening local communities about the harm of smoking and drugs, so that we have an enlightened generation in the future, who will be capable of preserving and sustaining our religious and cultural values.

Where the things he wished not to see in the schools' future were:

- Early school leaving is a problem that takes place amongst many children who leave the school to work in small factories and workshops, which further complicates the illiteracy crisis. Pupils should continue their schooling.
- Some pupils are slightly behind their colleagues, and teachers have to adopt modern pedagogies, which recognise individual differences to solve this problem and generate successful graduates, who will be able to continue their learning stages without any psychological problems. Such educational backwardness should be treated.
- Physically weak and unhealthy pupils face difficulties pursuing their study due to their weak build-up. We all know that academic attainment is highly related to children growth. We could treat these children with the assistance of local donations, which should be given secretly at their homes not to embarrass children amongst their colleagues.
- Some poor children cannot pay the tuition fees and book expenses, which hinders their study. Charities, local societies, and international organisations like 'PLAN' pay for these children tuition, books and even additional school lessons. These bodies also contribute to renewing school furniture and toilets.

As for the school site, it should be:

- Far from factories and places which generate noise, so that children can concentrate and achieve better understanding and attainment, hence benefit and succeed in excel as a result of proper understanding. Smoke and noise caused by such factories are most influential.
- The school site should be good, and classes should not be too close to surrounding buildings. This could indirectly affect the educational process as a result of noise, fights, domestic refuse, odours ... etc.
- School should have a suitable garden, to practice gardening and botanical care, as well as responding to children desires to make them psychologically comfortable.
- School should have a spacious courtyard to enable children practising activities, particularly sports. A spacious courtyard can be divided into a number of playgrounds for football, volleyball, basketball ... etc.
- There should be a school-club, in which social, cultural, leisure and sporting activities take place throughout the whole year, including vacation times. This helps the school to build aware generations for the future, which will be equipped with cultural, social, and sports experiences.

- Artistic activities like drawing, sculpture, painting, ornamentation ... etc. are very important for children to enhance their skills. This used to be the case before, where highly skilled artists could develop their talents in their early school years, but unfortunately care dedicated to this discipline is retrograding.

What was seen negative in the school site was:

- Being in isolated areas, which puts children security at risk, being subject to possible assaults.
- Schools should be far from cemeteries, for the negative psychological influence on children.
- Is should be also far from herding places, cages and stables, because this affects children's psychology and educational process.
- Schools are disfavoured to be in environments with dominant negative behavioural patterns like slaughterhouse, because this has effects on children and teachers. Children will imitate adults in bad things like smoking, drugs, and impolite words.
- Teachers are continually frustrated by parents' inappropriate interference, to the extent that parents sometimes assault them physically.

As for the school building, he appreciated the new schools recently implemented by the Ministry.

- They are modern.
- They have spacious courtyards, which are suitable for playing big matches. Courtyards are extremely important for developing children's skills and fulfilling their needs.
- They have sufficient and hygienic toilets. They are well distributed throughout the building floors, to provide physical comfort and avoid wasting time.
- They have laboratories for applying scientific experiments, with all equipment, gas piping, and projection facilities.
- They have canteens, which are run by children themselves under a teacher's supervision, so that children acquire buying and selling skills and be more self-dependent.
- They have activity rooms for sports, art, and social activities, all well equipped.
- They have wide corridors overlooking the schoolyard. This gives an aesthetic effect and is good for delivering speeches in special celebrations.
- Good ventilation is characteristic in these schools. Classrooms have windows on both sides, and the wide corridors over looking courtyard contribute to this feature.

- School media-centre is important for morning assembly and exercises, delivering speeches and instructions, and school ceremonies.
- These schools have suitable storage areas, for keeping school needs.
- They leave you with a special pleasant impression, which makes you wish all schools be similar.

Whereas the negative things he reported about school buildings were:

- Old crumbling buildings, which are characterised by dampness and water leakage.
- Tight study rooms, which do not allow suitable sun-lighting and increase contagion possibilities.
- Bad ventilation, for the same hygiene reasons above.
- The blackboards are too small for the amount of text teachers need to write, and their quality is too bad with many holes and cracks.

Finally, his recommendations for improving school design were:

- School should be far from factories and workshops, to avoid the negative effect noise has on the educational process.
- Applying the international standards undertaken by developed countries in school design.
- A school should include classrooms, laboratories, activity rooms, clinic, canteen, spacious courtyard for sporting, large garden for pupils to practice gardening and planting, lots of flowers, and pet corner in which studied animals are kept.
- School building should be designed to resist earthquakes, to avoid material and human losses as occurred in 1992. This has been applied in the new Ministry schools.
- Providing first aid means for emergency cases.
- Training people how to act in emergencies and natural disasters.

6.10 Piling Adults' Responses

The following table represents the variables outlined in the adult groups' survey, classified under each participating category. These variables are organised according to a descending order of the overall total frequency of each variable. It is worth mentioning here that the piled frequencies for each particular question are included in Appendices B and C, at the end of the thesis.

Variables	Administrators	Teachers	Parents	Total
Hygiene: Hygiene ... health ... contagion ... illness ... cleanliness ... nutrition ... sound build-up ... physical fitness	106	107	126	339
Spaciousness: Large classrooms ... spacious schools	105	96	103	304
Future development: Future development ... preparing future generations ... preparing good citizens for the future ... planning for better future ... the development of our country ... improving the quality of educational outcome	126	94	82	302
Activities: Activities ... sports ... music ... arts ... theatre ... gardening	94	71	75	240
Playgrounds and courtyards: There should be enough playgrounds and courtyards	71	73	79	223
Discipline: Discipline ... control ... pupils and staff repeated absenteeism ... obedience	84	65	37	186
Integration with local community: School integration with community ... integration with surrounding environment ... benefit from nearby stationary, hospital, police-station, fire-station, mosque, church, neighbourhood club and playgrounds ... different courses for parents ... medical, social and political enlightenment for local people ... illiteracy sessions ... wealthy locals should provide material aids to school ... charities and societies contribution ... running summer clubs in school	72	54	57	183
Personality and ethics: Forming children's personality ... caring for the ethical values ... self-dependence ... protect children against bad habits ... smoking ... drugs ... bad words ... cheating ... sound behaviours ... carelessness	39	54	80	173
Safety: Safety ... clinic ... multiple exit ... multiple staircases ... high window-sills ... injuries ... falling down	43	40	79	162
Learning: Children learn ... expand their knowledge ... benefit ... understand the lessons ... attainment ... concentrate ... develop their mental and thinking abilities ... achieve excel and distinction ... cognitive development	54	49	55	158
Management: Good management ... good system ... fixed timetables ... school reputation ... co-ordination with central authority ... bureaucracy ... trust ... co-operation ... understanding ... support ... anti-nepotism ... fair ... flexible ... close to pupils ... close to teachers	64	59	31	154
Aesthetic qualities: Aesthetic qualities ... beautiful scenes ... good-looking buildings ... general outlook ... decorating the school	33	46	54	133
Orientation, Illumination and ventilation: Good orientation ... sunny ... good ventilation and illumination... airy ... fresh air	51	40	40	131
Quiet: Quiet ... not noisy	40	49	38	127
Gardens: Green areas ... gardens ... trees ... flowers ... fields	34	52	40	126
Pedagogy and curriculum: Applying modern pedagogy ... modernising curriculum ... omitting irrelevant information from curriculum ... using teaching methods that appeal to pupils ... theatrical curricula ... play learning ... undertaking research ... decrease homework ... avoid blunt memorising to understanding and deriving	42	28	50	120

conclusions ... practical experiments ... promoting discussions				
Overcrowding: Avoid classroom overcrowding	43	36	40	119
Building condition: New school-building ... good building condition ... well-maintained ... robust ... water leakage ... dampness ... wall cracks ... non-traditional building forms ... broken windows	41	35	41	117
Qualified teachers: Qualified teachers ... experienced ... ability to conduct information to pupils ... updated ... ability to deal with pupils of different abilities ... hardworking ... honest	34	26	49	109
Psychological comfort: Psychological comfort ... boredom ... responding to pupils' desires ... pleasant ... nervous tension ... dull ... depressing ... psychological disorders ... frustration	27	36	40	103
Location: Close to home	31	24	41	96
Locality: Arabic language ... mother tongue ... caring for religion teachings and values ... our identity ... our traditions and values ... our culture ... male/female separation ... our beloved country ... our history and heritage	28	26	36	90
Belonging: Belonging ... loving the school ... sense of ownership ... being part of the school ... loving the class	26	25	35	86
Pupil - teacher relationship: Pupils love teacher ... pupils respect teacher ... pupils do not fear teacher ... teacher should be an example for pupils ... physical punishment should be avoided	25	27	33	85
Staff relations: Staff interrelation ... co-operation ... understanding ... telling lies ... hypocrisy ... trust ... support ... competition ... family-like ... social gatherings ... friendliness	33	46	6	85
Parents participation: Parents involvement	16	32	31	79
Modern facilities: Contemporary laboratories ... computers ... up-to-date facilities ... modern technologies	37	15	27	79
Physical comfort: Fatigue ... physical comfort	21	24	34	79
Skills: Developing pupil skills ... finding out their interests ... hobbies ... talents	24	18	34	76
Facilities: Facilities ... appliances ... swings ... good blackboards ... televisions and videos ... sports equipment ... suitable furniture ... school busses ... explanation devices and models ... swimming pools	29	34	11	74
Financial matters: Finance ... increasing teachers' salaries ... teachers' incentives ... stopping private lessons ... expensive books and stationary ... expensive uniforms ... school budget ... wealthy families have access to better schools and teachers ... providing financial aids to school ... high tuition fees ... commercial attitude in schools ... future job	24	16	30	70
Time: Time waste ... punctuality ... reasonable study hours	26	21	22	69
Pollution: Pollution ... smoke ... fumes ... exhausts ... bad odours	20	13	35	68
Play: Play ... camping ... entertainment ... ceremonies ... contests	19	16	32	67
Building height: Prefer low school-building ... horizontal design ... not with many stories	20	11	30	61
Toilets: Provide enough toilets ... locate toilets within reasonable distances	27	13	20	60
Pupils relations: Pupils interrelation ... sharing coherent social level ... friendship ... equality ... embarrassing poorer ones ... violence ... interaction ... helping one another ... study together ... socialising	14	18	25	57

Location: School should be far from factories and workshops	23	20	14	57
Location: Keeping reasonable distance from surrounding buildings	19	15	20	54
Foreign education: Foreign languages ... internationally recognised degrees ... comparable pupil levels internationally ... study abroad	4	3	42	49
Library: Having good library ... book varieties ... promoting reading	16	16	17	49
Location: Good location	12	26	10	48
Location: School should not be very close to busy high-speed roads	13	17	17	47
Location: Easily accessible	14	8	19	41
Location: School should not be very close to traffic congestion ... School should not cause traffic congestion	7	7	18	32
Staff rooms: Providing sufficient staff rooms	13	13	1	27
Staircases and corridors: Providing wide corridors and staircases	9	1	12	22
Entrances: Multiple entrances ... staff entrance different from pupils' ... separate entrance for visitors ... different entrances from different streets	8	5	7	20
Age: Recognising age differences in building regards ... in teaching methods ... in classroom allocation	5	7	8	20
Privacy: Privacy ... outsiders do not see or interfere with what happens in the school ... pupils do not look at nearby houses	2	10	6	18
Location: Good roads ... wide ... well-paved ... known	3	6	6	15
Location: School should not be very close to shops or market	5	4	6	15
Location: School should be close to public transports	9	2	3	14
Children Participation: Children participation in school design	2	4	5	11
Teachers status: Improving teachers' status and prestige	4	6	1	11
Colours: Bright colours ... pleasant colours	1	2	7	10
Parking: Providing parking areas	-	1	8	9
Location: Infra-structure should be available on school site	4	3	1	8
Canteen: School should have a canteen and a restaurant	3	1	3	7
Fences: Remove school fences ... fence should not be as high as prisons'	3	2	1	6
Staff participation: Staff participation in school design	1	3	1	5
Sight: Attending to children sight difficulties	-	4	1	5
Prayer room: Providing a prayer room	2	3	-	5
Earthquakes: Attention to earthquake precautions	1	1	3	5
Location: School should not be very close to railway	1	1	3	5
Location: School should not be very close to canals	1	3	-	4
Location: Attention to the dangers of crossing streets on children	3	-	1	4
Location: School should not be very close to police station	2	-	2	4
Location: School should not be very close to hospitals	1	-	2	3
Location: School should not be very close to cemetery	2	-	1	3
Location: School should not be very close to cinemas and café's	1	1	1	3
Location: No many schools besides one another [school complexes]	-	1	2	3
Location: Prefer to be near other schools	1	1	1	3
Building materials: Using high-quality building materials	-	-	3	3
Pet corner: School should have a pet corner	1	1	-	2
Home-like: School should be made home-like	-	-	1	1
Internal height: Internal height should be at least 4	-	-	1	1

meters				
Structure: Columns and beams should not interrupt the classroom space	-	-	1	1
Storage: There should be enough storage areas in the school	1	-	-	1
Media centre: School media centre	1	-	-	1
Location: School should not be very close cages, stables, and slaughterhouse	1	-	-	1
Classroom flooring: Sloping classroom floor	-	-	1	1

Table (6-10) Variables resulting form piling adult groups' responses identified by categories.

6.11 Piling Children's Responses

The following table represents the variables outlined in the children's survey. These variables are also organised according to a descending order of the frequency of each variable. Piled frequencies for each question are included in Appendix Y at the end of the thesis.

Variables	Total
Hygiene: Hygiene ... health ... contagion ... illness ... cleanliness ... nutrition ... sound build-up ... physical fitness	85
Learning: Children learn ... expand their knowledge ... benefit ... understand the lessons ... attainment ... develop their mental and thinking abilities ... achieve excel and distinction ... cognitive development	62
Pupil - teacher relationship: Pupils love teacher ... pupils respect teacher ... pupils do not fear teacher ... teacher should be an example for pupils ... teachers love pupils	51
Spaciousness: Large classrooms ... spacious schools	46
Facilities: Facilities ... swings ... good blackboards ... sports equipment ... suitable furniture ... swimming pools ... use chalk that does not cause dust ... dust bin ... fan ... curtains ... air-conditioning system	45
Pupils relations: Pupils interrelation ... friendship ... violence ... helping one another ... study together ... socialising ... hitting one another ... fighting	39
Activities: Activities ... sports ... music ... arts ... theatre	34
Aesthetic qualities: Aesthetic qualities ... beautiful scenes ... good-looking buildings ... general outlook	33
Playgrounds and Courtyards: There should be enough playgrounds and courtyards ... no sandy playgrounds ... no tarmac playgrounds	30
Overcrowding: Avoid classroom overcrowding	30
Psychological comfort: Psychological comfort ... boredom ... pleasant ... dull ... frustration ... feeling lazy	29
Development: The development of our country	23
Orientation, Illumination and ventilation: Good ventilation and illumination ... sunny ... airy ... fresh air	23
Play: Play ... entertainment ... ceremonies ... excursions	22
Discipline: Discipline ... control ... obedience ... recklessness	20
Library: Having good library ... book varieties ... promoting reading	19
Wall paintings: Wall paintings and drawings ... decorative stuff	18
Punishment: Physical punishment and humiliation	17
Building condition: New school-building ... good building condition ... well-maintained ... water leakage ... wall cracks ... broken windows	17
Locality: Arabic language ... caring for religion teachings and values	17
Physical comfort: Fatigue ... physical comfort	17
Pedagogy and curriculum: Simplifying curriculum ... using teaching methods that appeal to pupils ... decrease homework ... promoting discussions ... the way teachers explain ... teachers do not mind to repeat explanation	16
Time: Time waste ... punctuality ... reasonable study hours ... consuming free time in	16

good things ... break time	
Safety: Safety ... clinic ... injuries ... falling down	15
Gardens: Green areas ... gardens ... trees ... flowers	13
Modern facilities: Computers	12
Belonging: Belonging ... loving the school ... being part of the school ... loving the class	10
Personality and ethics: Forming children's personality ... caring for the ethical values ... bad words ... sound behaviours	10
Qualified teachers: Qualified teachers ... ability to conduct information to pupils	8
Colours: Bright colours ... pleasant colours	7
Sight: Attending to children sight difficulties	7
Children's participation: Children participation	6
Canteen: School should have a canteen and a restaurant ... sweets	6
Vandalism: Vandalism ... breaking furniture and windows ... writing on the wall	6
Quiet: Quiet ... not noisy	5
Place in class: Sitting at rear rows in the classroom	5
Water: Providing drinking water	4
Gender: Gender separation	4
Management: Good management ... good system ... fixed timetables ... school reputation ... close to pupils	3
Pollution: Pollution ... smoke ... bad odours	3
Building height: Prefer low school-building	3
Prayer room: Providing a prayer room	3
Building materials: Using high-quality building materials	3
Parents participation: Parents involvement	2
Foreign education: Foreign languages	2
Age: Recognising age differences in classroom allocation	2
Future: Become engineer ... become famous player ...	2
Handwriting: Good handwriting	2
Morning assembly: Morning assembly	2
Morning assembly: Dislike morning assembly	2
Surroundings: Integration with surrounding environment ... classroom close to gate	1
Toilets: Provide enough toilets	1
Staircases: Providing wide staircases	1
Fence: Remove school fences	1
Home-like: School should be made home-like	1

Table (6-11) Variables resulting form piling children's responses.

6.12 Analytical Interpretation

The following section introduces the researcher's interpretation of the variables raised by respondents, as well as their inter-correlation. The goal is to derive the general theme of education people have in mind, and find out to what extent the proposed theoretical framework relates to people's perceptions. The variables analysed are placed in descending order corresponding to their frequencies shown in tables (6-10) and (6-11) above.

Hygiene

The high frequency of hygiene factors is quite notable in all questions. It was seen with an overall frequency of 339. In the children's questionnaire it also had the highest frequency at 85. This confirms the assumption suggested earlier in Chapter Three that

there still is a significant preoccupation in Egypt with hygiene factors, which were dominant concerns of school design in the late nineteenth and early twentieth centuries. It is striking that adults mentioned this 56 times in the first question of the general section of the questionnaire, and 58 times in the first question of the 'site' section. This reflects that it occupies an important place of people's priorities, with almost one third of the overall frequency coming at the first place of both sections.

Having hygiene at such high frequency may also be interpreted with reference to Herzberg's et al. hierarchical order of needs outlined in their motivation - hygiene theory in which they placed hygiene needs first before any other category of needs.
This is not to suggest that people are preoccupied with it while it is not important. On the contrary it is known form chapter three that endogenous development is holistic. It deals with all personal and societal needs. For example, hygiene, as a basic need, is found so important in Maslow's humanistic education, as discussed in Chapter Five in support of endogenous development.

Factors relevant to hygiene included spaciousness, classroom overcrowding, activities, playgrounds, playing, illumination and ventilation, gardens, pollution, physical comfort, toilets, and factories. People referred to providing spacious learning environments and avoiding classroom overcrowding as conditions that can provide a healthy atmosphere and reduce the possibility of contagion. This was also applicable to ventilation, and illumination, which have clear role in viral and bacterial growth. In relation to hygiene, playgrounds and activities, particularly sport, were seen as useful for sound healthy building-up of the children. Gardens were seen as an important aspect in cutting down levels of pollution and to create a healthier environment, in contrast with the effects of factories and workshops. Another element that was mentioned 60 times in association with hygiene factors is the number of toilets. There appears to be a significant shortage of toilet facilities, in comparison to the number of children accommodated in the schools.

These parameters, which people associated with hygiene, can be seen as very relevant to the same nineteenth century school characteristics, which Dudek (2000) outlined as: spacious classrooms linked together by marching corridors, colonnades, halls or open courtyards, to combine the advantages of cross-ventilation and all-around natural light within classrooms.

Spaciousness

Spaciousness was mentioned 304 times. It was notable that it was seen at a high frequency of 52 in the first question of the building section. This implies the essential need for more indoor rather than outdoor space, where the majority of school-day is spent. Children also found this to be crucial, ranking fifth at a frequency of 46.

The significant emphasis on spaciousness, classroom overcrowding, playgrounds, gardens, and even toilets, historically goes back to the time of 1952 revolution in Egypt, where many palaces were nationalised and converted into schools. When pupil numbers were increasing with the very limited provision of new schools, schools were forced to build more classrooms on site. This obviously took place using existing elements, cutting-off parts of playgrounds and gardens ... etc, until arriving at this problematic situation, giving a general feeling of cramped and overcrowded sites (Fiki, 1997).

Spaciousness was additionally thought to affect the overall quality of education as well as children's understanding. People consider spaciousness as an aspect of aesthetic quality. Some respondents also reported that spaciousness allows better airflow and exposes more interior spaces to sunlight. To provide reasonably comfortable respiration and movement for pupils, Aiche (1987) gives figures of 25-40 m^2 per pupil of the whole school area as a standard for school accommodation.

A spacious area obviously gives opportunity for providing sufficient playgrounds, gardens, library [which surprisingly had higher significance for children (19) than adults (49), bearing in mind sample size and number of questions for both categories], prayer room, laboratories, toilets, staff rooms, parking areas, and canteen and restaurant [the fact that these last two may be associated with sweets provides an explanation for their apparent high level of importance to children who mentioned them 6 times]. Ease of movement and safety were also mentioned repeatedly together with spaciousness.
One may refer here to the post World War II experience in Europe. Dudek (2000) says that to be able to provide spacious classrooms, halls and green-fields schools there were often located around the edges of expanding suburbs, rather than in urban locations within the city centres. Such a trend also took place recently in Egypt, but only amongst private schools.

In addition to its hygienic relevance outlined above, spaciousness was seen by many as a source of psychological comfort, pleasant feelings and improved interrelations amongst the school population. This needs to be taken in consideration with Papageorgiu-Sefertzi's study (1984), which analysed pupils' socio-spatial schemata to find that pupils from small schools had clearer images of their school's physical environment and more favourable attitudes towards school life. This was suggested to affect the level of children's coherence with their learning environment. The study also suggests that children's sense of orientation and ease in moving about the school inversely correlate with school size[1], with negative implications for their psychological convenience. Pupils of small schools acquired a better sense of belonging and a deeper interest in school matters. Frequent feelings of loneliness, alienation and uneasy adjustment tended to characterise larger school complexes, particularly with younger age-groups.

At the individual scale, spaciousness responds to physiological hygiene, safety, aesthetic and relatedness needs. The last of these can be seen as a source of societal cohesion that fosters participation and collective effort, this being a crucial pillar of the endogenous model. Spaciousness also has a utilitarian function, to provide the possibility to include more elements supporting better education, another major component of development.

Future Development

People referred to futuristic dimensions a number of times. Although term 'development' itself was not mentioned in all cases, it is easy to derive the essence of development from statements like *'preparing future generations ... preparing good citizens for the future ... planning for better future ... the development of our country ... improving the quality of educational outcome ... etc'.*

All these statements are ways of expressing concern about the future and a willingness to develop, and were mentioned 302 times throughout the whole questionnaire. It is striking that the category to mention this most was the administrators [126 times compared to parents 82 times for example]. This could be the result of administrators' involvement in educational planning, which exposes them to knowledge regarding the possible role of education in shaping the Country's future.

[1] 'Size', in this context, is intended to relate to the amount of space provided rather than the common use denoting the number of pupils attending. Number of pupils is addressed with 'overcrowding' hereunder.

Children also referred to the notion of the future at a lower frequency of 23. This may similarly be interpreted in the context of the awareness of the strategic role of education.

The application of modern pedagogy and modernising curricula was also mentioned in association with the above notions. Integration with community was another issue that had a strong connection to the future of school in peoples' minds, supporting the model of indigenous community-based education. It was highlighted in chapter four how this model represented a sound educational base for endogenous development.

The persistent emphasis on the need of up-to-date facilities and the provision of computers and modern laboratories were always referred to the demand to compete with developed countries and generate a better future. For the children, computers alone were important [mentioned 12 times], and none of them referred to laboratories or other related facilities. People were also interested in the teaching of foreign languages and acquiring international degrees. This has traces from the 1960 - 70's widespread theory of modernisation, as explained in greater detail below in the analysis of 'locality'.

Mentioning the actual term 'development' in the context of education is like asking a local Cairene what they know about Cairo. It is unlikely that they will mention the Great Pyramids. This does not imply that the Pyramids are not important, it is that their significance is taken for granted. In a similar sense the significance of education in development is thought to be too obvious to be stated. Thus, it is not only the above statements that relate to development, but almost every response in the questionnaire can be related to development, as confirmed by Fadaka (1982) who depicted technology and education as subordinate to social needs and development.

Activities

Respondents referred to activities and movement subjects 240 times, 58 of which were in the first question. Children also mentioned it 34 times. This reflects the significance of these subjects in people's perception, being mentioned so frequently in the first question. Under the category of activities, people referred to sports, music, arts, gardening, and acting. The reference to movement subjects and activities highlights people's awareness of their importance in the process of education.

The first three variables [hygiene, spaciousness and future development] were graded in total frequency, and a significant gap was seen between them and this variable. This reflects a difference in the level of importance given to these factors. One may interpret

this as an indication that the first three variables are the most important and significant for people, when compared to the others.

People referred to the health benefits of sport. They also pinpointed the necessity of having spacious schools to enable the dedication of sufficient space to such activities. These spaces include playgrounds and courtyards, explaining why these spaces are mentioned repeatedly in connection with activities. Similar interpretation applies to the association between gardens and gardening. Respondents referred to the fruitful educational outcome associated with teaching through such activities. As raised in chapter five, Wild suggested a crucial role for 'movement subjects' in relation to reciprocal dependency, and that dedicating enough time for these subjects is equally important in responding both to physical and psychological needs. Movement subjects are known to offer valuable possibilities for healthy expression of the child's self, strengthening self-confidence, and establishing balance and harmony with the environment (Wild, 1990).

People confirmed that these activities are perceived to contribute towards the construction of sound personalities. Subjects like music and arts particularly were described by respondents as a means of improving children's aesthetic perception. Respondents found these subjects to be good means for finding and improving children's interests and skills. As discussed in Chapter Five Maslow suggested that movement subjects like sports, dancing, arts, music ... etc. were crucial for humanistic education. They are so close to the human biological core, so close to this identity, that they should not be thought of as luxury, but rather as basic experiences in education. Developing children's skills was mentioned 76 times, which is a major consideration for self-discovery as a step towards self-actualisation, as mentioned in Maslow's model. This was repeatedly mentioned as an important aspect for the development of a stable personality (Maslow, 1973).

It was stated in chapter five that both Elkind's 'active learning' and Maslow's 'humanistic education' are supportive of endogenous development, with both emphasising the necessity for school activities and movement subjects. These subjects also respond to personal needs, for example sport is a physiological necessity. Music and art are ways of self-expression and self-actualisation, as well as a medium for responding to aesthetic needs. Collective work fosters co-operation, belonging and relatedness, fostering an

endogenous awareness at the level of the school, which is then reflected at the societal level.

Playgrounds and Courtyards

These were mentioned 223 times. As explained above under 'spaciousness', a shortage of courtyard space became a characteristic feature of schools in Cairo, where classroom extensions gradually reduce available play areas. It is striking that playgrounds did not have the same importance to children as to adults. This was seen in both tables. Children mentioned this element 30 times, after they have referred to eight other aspects.

Responses to this element were correlated with playing [playing adults' frequency: 67, children's frequency: 22]. The significance of play is addressed by Piaget, who emphasises that schools should necessarily make use of play as a teaching aid, rather than confining it to break times. Piaget also refers to the two types of play, symbolic and functional. Schaefer and Berger (1997) confirm that play is the highest form of intellectual exercise for children, and state:

> *"Play is serious work for children. The child develops his intelligence, his creativity through play. Play contains the outline of his human existence"*
> (in: Reinecke, 2000: p. 39)

In addition to their role in activities and playing, respondents mentioned such spaces as providing an excellent medium for socialisation and leisure, as well as developing informal relations between pupils and teachers. The Egyptian climate is characterised by warmth and very little rain during school months [September - May]. This encourages outdoor activities and social assemblies and places open-air events as an essential characteristic of Egyptian culture. Ancient Egyptians were known for their love of outdoor recreation, although this was mostly associated with the higher classes. Whereas in the early Islamic eras, 'Midan' and 'Hara' were known to represent the main public open spaces for civic functions, outdoor recreation, festivals, markets and public meetings. Similar phenomena flourished during the Ottoman rule, e.g. El-Azbakeyya in Cairo (Abou El-Ela, 1996).

This explains why open spaces like these fulfil the function of indoor assembly halls. Literature tells us more about the role of such spaces in interactions between the school population as a whole. Assembly halls, internal streets and central promenade walkways

provide an informal social focus, hosting school exhibitions and communal meetings. The assembly hall generates a natural sense of community beyond the limitations of the class base. For the children, assemblies represent a continuing socio-cultural experience throughout their life in the school. They form a generous communal space where the whole school, its parents and friends can come together at various times of the year to celebrate festivals and discuss community concerns. In regard to spiritual and moral concerns, the assembly hall is the point where the staff are presented informally as examples to the children (Dudek, 2000). It also creates an arena for the head-teacher to communicate directly with the entire student body, and a point where they can most easily lead the staff by example. It is an important way of explaining the social ethos which establishes behavioural benchmarks for the pupils to follow (Clark, 1995).

It was also reported by Titman that recent decreases in family size has limited children's opportunities for social interaction with others inside the home. Furthermore, organised, out-of-school leisure activities are no substitute for the type of informal, unsupervised social interaction which children usually experience when 'playing-out'. Without providing the opportunity for children to 'play-out' we are actually providing more time for passive activities like watching television, which is solarity rather than social (Titman, 1994).

In the present study, appropriate selection of materials was seen as crucial for health and safety, referring to sandy playgrounds as creating dust that is unhealthy for pupils, and tarmac and tiles which are harmful when children fall down. Although gardens were more associated with aesthetics, some respondents suggested that large playgrounds add an aesthetic dimension to a school's general view. These open areas were also seen crucial for psychological comfort. They were seen to be highly influential in developing the sense of children's belonging and love of the school. The type of facilities mostly associated with playgrounds were swings and sporting equipment.
Titman (1994) suggests that fixed play equipment bought from ironmonger catalogues express little regard for children's understanding of environmental experience. Generally, the most successful play-equipment was that which allowed children to adapt it, to make new meanings around it, and change its form and use, either in the real sense or at least in their imagination. The greater the potential of the equipment or item to be changed or manipulated the better. For example, a big tyre from a tractor can sometimes be a den, or a spaceship ... etc.

It is also of prime concern for an 'active' school design to encourage unconscious learning. This may be reinforced by providing pleasant, shaded play areas, with attractive landscaping and creative play materials (Propost, 1972).

Thus, in addition to their role in play, important for active learning, playgrounds are spaces for social interaction relevant to Egyptian culture, which in a sense, is utilising local cultural elements to promote further social interaction and participation.

Discipline

Discipline is another characteristic notion of people's perception about education in Egypt. This was explained under the discovery of identity in humanistic education in chapter five. This was mentioned 186 times, mostly by administrators. Administrators mentioned discipline 84 times, where teachers mentioned it 65 times, and the least to mention it were parents, who referred to it only 37 times. This may be because teachers care only about disciplining children. Administrators refer to discipline of both children and teachers. Such emphasis on discipline was clearly reflected in the children's perceptions, who mentioned it 20 times.

Respondents referred to discipline as a crucial aspect in shaping a stable personality. It was thought to have significant impact on the overall quality of the education delivered. The assumption forwarded above was confirmed through the association of discipline with good management in many instances. Although not directly related in all questions, it was noticed that the majority of people referring to discipline in some questions expressed concern for the provision of quiet learning environments in other questions. Classroom overcrowding was seen a major obstacle to discipline. Maslow associates the traditional model of thirty-five children in one classroom and a curriculum of subject matter which has to be taught in a given period of time, with teachers being forced to pay more attention to orderliness and lack of noise than to making learning a joyful experience (Maslow, 1973).

As explained above, good teachers relate to discipline in two ways: first they should possess the experience and ability to discipline pupils, and second they should be disciplined themselves, particularly from a perspective of administration. Punctuality

was frequently referred to as a sign of discipline [even children referred to time 16 times, although some of them were motivated by securing break time].

Modernist traces can be seen in such preferences. Under modernisation theory, which influenced Egypt in its recent history, education usually involves teaching values that express adherence with modern bureaucracy, timetables, and punctuality (Harber & Davies, 1997).

It is known that modernist schools are essentially concerned with imposing discipline and control. This faces children with the hazard of being moulded through education to become factory fodder, neutralising the potential for the school to develop creativity and freedom of expression (Dudek, 2000).

Integration with Local Community

This notion was addressed 183 times. It was mentioned most frequently in question five, which concerned the future role of education. Associating this notion with aspirations for the future confirms that merging school into community is likely to be an essential component of development in the Egyptian context. This is particularly clear from the finding that respondents referred directly to the development of their community as a result of school fulfilling its role towards it. It was also found that respondents had the ability to address a significant number of the ideas discussed in chapter four. They were aware of the need for two-way contact with the local community. People also referred to the services a school should provide for the community, such as playgrounds, library, illiteracy eradication programs, various courses for local people, general enlightenment, and arranging summer club activities. It is claimed that the expansion of the school into the outer world and the penetration of the outer world into the school are complementary processes, both being necessary for the achievement of reality and effectiveness in education (Jeffreys, 1972).

To foster the process of community-based education, theorists believe that involving parents in school activities and programs of post-compulsory learning should bring different generations closer. Having common activities, going to the same places, and learning about new things like computers, the internet, communications, possessing contemporary vocabulary ... etc. so that parents are not out-of-step with their children (Fishman, 1991).

Extending school life to the wider community, running evening and weekend activities and using school facilities as the venue for social events should allow parents who need

help and advice to get in touch with other parents who may be able to help. Such a mutual exchange of skills and ideas becomes a by-product of the school social structure (Dudek, 2000).

Respondents also referred to the role local people should play in improving quality of education through donations and material contributions. In this regard they also mentioned a role for charities and societies. These aspects were addressed in the 'civic capacity approach', as part of a participatory theme leading to indigenous community-based education. The civic capacity approach is based on the need to include participatory effort in all of society's bodies to achieve development. There are various bodies in every society who are involved in educational improvement, and many theorists value envisaging these bodies as school reform stakeholders. Such stakeholders should form broad-based coalitions and alliances, including education interest groups, parent associations, community activists, mass-media, business leaders and foundations, together with local government and educational authorities, so as to achieve desirable school reform and educational enhancement (Gittell, 1994).

People also referred to the full utilisation of community services, like a stationary shop, medical centre, police station, mosque ... etc, all of which can be used to dissolve the barriers between school and community.
It is argued that education can never be fully and properly related to the life of the community until the whole community shares in the work of education. Public services, such as the post office, should co-operate with the schools in showing pupils how these services work. Industries should co-operate with the schools in showing boys and girls what types of employment they offer to help school-leavers to choose their jobs (Jeffreys, 1972).

Some respondents related the merging of school and community to children's attitudes towards their school. They believed children's sense of belonging to the school would be raised if they no longer felt as if they were being forced into an enclosed environment. A physical expression of such action was expressed through people's condemnation of high fences, with some respondents wanting them to be totally removed.
Many primary schools are built with high walls around their playgrounds. The walls emphasise the special nature of the school and demarcate its sphere of influence in the

community. Even in the middle of a busy town schools are isolated from life around them. The walls safeguarded the pupils cocooned within their island fortress of education and culture. There is limited interchange with life outside the school, and parents are only allowed within the walls on special occasions (Rintoul & Thorne, 1975).

An example of dealing with this comes from the Höchi primary school complex in Dättwil district in Baden town – Switzerland. To establish the school as a meaningful urban gesture, helping to integrate the school into wider urban fabric, Höchi primary school was situated on a pedestrian route around a public piazza (Buchanan, 1991).

Proponents of Dewey's micro-cosmic educational vision suggest that new schools should contain streets and shops, banks and a choice of restaurants adjacent to more traditional teaching spaces, thus forming a more controlled version of the school as a microcosm of society (Fisher, 1997).

An appropriate example is the construction of community schools where the building is designed to accommodate neighbourhood activities. A coffee bar, recreation rooms, library and lounges are included in the building, and parents and other members of the community are welcome to use them during and after school hours (Dudek, 2000).

Rough rock school in Arizona is an example of deeper integration between the community and school. In this example, adult education, arts and crafts enterprise, a laundromat, a toy and small furniture factory, a medicine man training project, and many other economic enterprises are organised and operated within the school (Dick & McCarty, 1997).

Some parents and educators have expressed concern in relation to children picking up inappropriate words and behavioural patterns through interaction with the wider community. This attitude likely comes from the long history of segregation between the school and society. If strong bridges between them are well-established and maintained, as suggested by an indigenous community-based model, the school would be more likely to reflect its surrounding environment. The school may even reflect more positive values onto the local community. Models of education which respond to endogenous needs at the level of the individual include 'active learning' and 'humanistic education'.

In brief, integration with the local community can be accomplished by extending the school facilities and services to the local community. The school can also benefit from

the use of surrounding facilities and through contact with the external environment, both physically and non-physically. The community will be more connected to the school, and will be more influential in responding to its needs for development. Education can never be fully and properly related to the life of the community until the whole community takes its share in the work of education.

Personality and Ethics

Respondent's considered that the role of schools should go beyond mere information supply, and expressed genuine concern about the broader role of education in shaping students' personalities. This idea was the most mentioned in the first question, with an overall frequency of 173 times. The high overall frequency confirms the importance of this idea to the majority of people. The ethical dimension was the most important to children, being mentioned 10 times.

Of the respondents described above, 80 were parents. This may result from feelings of responsibility towards their children's appropriate upbringing. They may also be more aware of the amount of time their children spend at school and their vulnerability to acquiring undesirable patterns of behaviour.

One can recognise the role of the family in forming children's attitudes and behaviour towards, for example, elderly care, special needs, sick people ... etc., and the connection between this and education should be recognised (Rintoul & Thorne, 1975).

Respondents referred to this issue on many levels making it relevant to almost all areas of life and school practices. For example it was mentioned in association with future development, it was also mentioned in association with activities, where children's recognition to beauty can be enhanced by art and music, and co-operation and challenge can be promoted by sports and contests. Spaciousness, overcrowding and open spaces were found to contribute to further openness in children's thinking and personality, as well as promoting respect to others' territories and boundaries. Gardens were seen as a source of connection to nature and learning. The significance of such connection is discussed in Chapters Four and Five.

Reference was also made to this aspect in relation to the promotion of traditional, cultural and religious values, as well as with pupil - teacher relationships, in which the teacher acts as an example for his pupils. Ethics were also frequently mentioned in the context of staff interrelations, favouring co-operation and support and condemning

betrayal and hypocrisy. Even toilets were seen as influential where there is a limited number of them, and pupils may have to queue for long time seeing one another in undesirable situations. In relation to features surrounding the school, people also reflected on the threat which may come from interactions with those from different social and educational backgrounds. This would include workshop workers or market traders, or even police stations and hospitals where they may see criminals or violent scenes. Keeping surrounding buildings at a distance was part of this ideology, and was intended to teach pupils respect for the privacy of others.

It is known that the theory of modernisation considered the schools' role to principally teach the skills needed for use of modern technologies and to prepare children for a life in the factory. As such, the school itself was viewed as kind of factory for the receipt of knowledge (Dyck, 1994). Pupils were to enter the system at one end, follow a prescribed course, and emerge with a degree at the other (Mumtaz, 1985). Within this model, it is clear that reference to personal development or psychological constructs was minimal compared to information delivery. This was probably the reason why many respondents raised the issue of ethical guidance, this being more in line with the ideas of Piaget when he advocated that education should be directed towards full development of human personality.

In opposition to the modernist model in many ancient and recent civilisations, spaces for education were secondary to the delivery of moral and religious instructions (Dudek, 2000).

The open plan system was found to improve children's behaviour in relation to responsibility and sensibility. This takes place when teachers train children to run the classroom themselves, when they know where things are kept, learn to help themselves to materials in a sensible manner, and put things back in place to keep the room tidy (Rintoul & Thorne, 1975).

In relation to the main context of this thesis, Ospina (1999) suggested that education should also be seen as a means to bring about changes in behaviour and lifestyle, to disseminate knowledge and to develop skills, and prepare the public to support changes towards development in all sectors of life. This raises the idea of personality formation within locally agreed codes, from an individual perspective to a societal level, as a principle for endogenous development.

Safety

Safety was mentioned by respondents 162 times, 79 times by parents and 15 by children. This probably stems from their emotional connection regarding the safety of their children. Safety is second in Maslow's hierarchy of needs. Safety needs include security, stability, protection, and freedom from fear, anxiety and chaos (Maslow, 1987).

People's concerns for safety were raised in relation to spaciousness, multiple exists, multiple wide staircases and corridors, high window-sills, and avoiding crashes or bumps caused by space limitations. Separating pupils according to their ages was seen to prevent youngsters from being run-over by older groups of children. This was also referred to by some respondents under 'easy movement'. It was also underpinned in relation to a desire for softer playground surfaces to reduce the possibility of injury associated with falling down. This was discussed in Chapter Five in relation to the study undertaken by Titman (1994).

Safety was one of the reasons for people wishing to avoid high buildings and for them drawing attention to earthquake precautions in school design. A good emergency clinic was also a requirement for ensuring safety in the school. In relation to facilities, people thought that the condition of classroom furniture may pose a risk to children's safety. For the sake of safety, a preference expressed for the school-site to be far from busy, high-speed roads, railways, and canals. There was also an emphasis on having a suitable street crossing zone near the school entrance.

Learning

Issues related to learning, understanding, cognitive development, and acquiring knowledge were mentioned 158 times. Children attributed a higher rank to this, being the second most frequently mentioned issue in the children's questionnaire at a frequency of 62. The direct function of schools is considered to be the receipt of knowledge, this has been the case since the time of the modernisation, when schools were planned to teach the children what is needed to prepare them for life in the factory (Dyck, 1994).

This is also in line with the need to know and understand, outlined by Maslow under cognitive needs. Both form a hierarchy similar to the one in basic needs, i.e. the first is prepotent over the latter (Maslow, 1987).

Respondents associated learning with quality of education, activities, good ventilation and illumination, quiet environment, modernising pedagogy, classroom overcrowding, qualified teachers, physical and psychological comfort, pupil - teacher relationship, reading, good facilities, appliances and explanation models. It is clear that any shortage or deficiency in these factors can hinder children's ability to concentrate and understand, and this will consequently be reflected in their knowledge acquisition and cognitive development.

Concerns over academic achievement may be understood within the context of fragile state theory. This theory suggests that state authorities tend to think of the link between education and employment as important to sustain and improve their legitimacy. Failure to provide suitable employment for the graduate masses may cause a decline of faith in education, other state institutions, and even the governing regime. Thus, a parallel line is drawn between economic improvement and the current level of school effectiveness and academic achievement. Yet, students and teachers bare the responsibility of not reaching the required standards, rather than blaming the state for its inability to improve quality of life or provide job opportunities (Harber & Davies, 1997).

This clearly encourages people to strive for better educational outcomes for their children, so they are eligible for good jobs, and will not be among those less favoured pupils who cannot obtain work due to educational deficiency, i.e. in the state terms, they won't be part of the educational system's shortcomings.

Management

Reference to management has been made 154 times. 65 of these references were made in question three, implying that good management is a crucial dimension of preferred schools.

The definition of good management largely depends upon the perspective of the group addressing it. For example, teachers emphasise trust, co-operation, flexibility, anti-nepotism, fairness and the like. Parents were more concerned with the administration's role in applying good managerial and educational systems, improving school reputation, and promoting good relations with the children. The administrators' view of a good management was highly dependent upon the relationship with central authorities and freedom form bureaucracy.

Obviously, management was seen by respondents as a central element, responsible for a range of issues, including the maintenance of acceptable levels of hygiene and cleanliness in the school environment. Discipline, as discussed above, was one of the issues they attributed to good administration. Contact between school and community was seen by many respondents as starting at the management level. This is in line with the work of Corson (1999) who emphasises the significance of management's willingness to share leadership with the community.

Staff relationship issues were, in many instances, seen as a management responsibility. The ability of managers to recruit highly qualified teachers and follow their performance was one of the aspects respondents referred to good management.

Psychological comfort and belonging were considered to be highly correlated with management's ability to create good working environment. Appropriate staff-room allocation was seen as an essential element to achieving this. Management duties were seen to extend to the promotion of friendly relations with teachers, parents and pupils, partly expressed through the level of participation of these groups.

Most of the financial problems highlighted by the questionnaire were directly related to managerial issues, and included tuition fees in private schools, imposing costly uniform requirements, stationary and books. Teachers questioned the administration's management of the school budget, and repeatedly brought up the question of raising their salaries, to improve their overall status and level of respect. Even the problem of private tutoring, given by teachers outside of school hours, was seen as a result of management not ensuring that teachers are providing adequate lessons in school class time.

These perceptions may result from the major deficiencies caused by the 'open door policy' adopted in Egypt in the 1970's, which allowed materialistic values to dominate peoples worldview. In terms of education, this was expressed first through increased investment in luxurious private schools with high tuition fees, indirectly discrediting state education. And secondly, through the attitude it created among teachers, fighting to get out of their low-income dilemma, and turning in huge numbers towards giving private lessons or seeking job opportunities with better salaries in oil rich Arab-countries (MOE & USAID, 1990).

Building on people's responses, the thesis will attempt to identify the general attitudes of school management in Egypt. It was stated earlier that every institution is a blend of a group of attitudes. Inactivist and reactivist attitudes are the most relevant to Egyptian school administration, and the following discussion outlines their common grounds. Inactivist tendencies can be seen in the usual satisfaction with the way things are going, and having no serious motivation to take action unless forced to. Their main direction is towards conservation, stability and survival. Thus, their behaviour is usually very centralised with decision making at the top hierarchical level for the majority of issues. They do not pretend that things are at their best, they claim they are as good as we have the reason or the right to expect. Reactivist attitudes surface in terms of a high dependence on experience to deal with problems. This explains why seniority and age are valued, with responsibility being allocated accordingly. They claim that the experiential approach minimises the risk of errors being made that could result in serious problems. As reactivists, they tend to marginalise or subordinate unmanageable interests. It is very common that school management puts the blame on lack of governmental funding, or central authority restrictions (Islami 1998; Ackoff 1974).

Additionally, the school-administration seems to be more relevant to top-down than it is to bottom-up, being highly centralised and externally planned. This has traces in the theory of modernisation adopted in the 1960 – 70's, which encouraged the rationalisation of authority and the growth of bureaucracy. Other characteristics relate to fragile state theory, by which we may refer to the centralised curricula, domination of bureaucratic routine, and limitations on the power of the individual (Harber & Davies, 1997).

Such extreme centralisation of decision-making, laws, government orders and regulations have considerably curtailed freedom of action for local and regional administrators. The following proposals, put forward by BIAC seem to respond to a significant number of the problems raised in relation to school management. It is suggested that the governments' role should be in establishing the broad outlines of educational policy which determine the administrations' operational framework. Local educational administrators should be allowed greater autonomy and initiative in budgetary management, educational programming and curricula planning in order to meet local and regional needs (BIAC, 1984).

School management and organisation also affects a school's relationship with the community. Many schools in Egypt are still run under classical organisation theory, characterised by a top-down pyramid-like hierarchy. Promotions follow seniority. Tasks, rights and duties in this model are determined by specialisation and clear-cut rules, with no place for emotional issues (Weber, 1964).

Such a static bureaucratic and centralised system is usually associated with educational difficulties, particularly in relation to horizontal communication. Dismissing sentiments in favour of rules endangers the pupil/teacher relationship, which Rintoul and Thorne (1975) described as the basic source of pupils' security and stability.

In addition to the role of the school administration in managing school affairs, it has a special role in establishing contact between the school and the local community. Corson (1999) highlights the significance of its willingness to share leadership with the community. Relations with the schoolchildren, their parents and even amongst the staff, relies heavily on the school-administration's performance.

Aesthetic Qualities

Aesthetics were mentioned 133 times, mostly by parents [54]. Parents concern relates to the same issues discussed above under personality and centres around their believing that developing an appreciation of aesthetics is an essential part of bringing up for their children. Parents were also concerned with their children spending long hours in school. Children gave this aspect a higher priority than adults, putting it in eighth place with a frequency of 33. Wall-paintings and drawings were seen as a major decorative element for children, being mentioned 18 times.

Many respondents found aesthetic needs to be fulfilled through building decoration, use of colours, spacious playgrounds, and the provision of large green areas. This was reported to reflect on pupils' personality, understanding of lessons, psychological comfort, and degree of love and belonging to school.

Aesthetic needs are among Maslow's cognitive needs, which also include the desire to know and understand. Aesthetic needs come after learning and understanding in this hierarchy. Evidence exists that people get sick from ugliness, and can be cured by beautiful surroundings. This is observed almost universally across all cultures and ages (Maslow, 1987).

The idea of aesthetics was most mentioned in the first building question 26 times. This may imply that building aesthetics are more important to people than site aesthetics.

As discussed earlier, the image of schooling in the nineteenth century remains foremost in people's perceptions in Egypt. Architecture at that time was influenced by the emerging modern movement, the recognisable symbol of modernity, which was characterised by a rejection of all preconceived forms, precedents and traditions. Being purely based on logic and rationality, it used pure forms, i.e. undiluted, elementary geometric forms, abstract forms, forms that exist in themselves, not dependent on external objects. Decoration was redundant and rejected. The materials of construction must be left pure, with no applied decoration. The finished colours and textures of the buildings must be those of the natural materials themselves. The structural system must be expressed externally as well as internally (Mumtaz, 1985).

Seaborne and Lowe described these schools as:

> *"... among the most hygienic and ugliest of English school buildings"* (Seaborne & Lowe, 1977: p. 93)

Mumtaz highlights building aesthetics role in the overall aesthetic perception of a child, and the significance of the local dimension towards it. He claims that the aesthetic sensibilities children acquire are most often acquired uncertainly, because they are from a culture to which they have no direct access. The aesthetic sensibilities of the culture to which they belong are rejected before they are studied critically (Mumtaz, 1985).

Orientation, Illumination and Ventilation

Having an appropriate orientation was seen as a good source of suitable natural ventilation and illumination, being addressed 131 times by adult respondents. Although children did not refer to orientation directly [probably due to their extent of knowledge], they have mentioned its effects on ventilation and illumination 23 times. These were seen as important for basic hygiene requirements. More details were discussed under 'hygiene' above. Spaciousness and open spaces were reported to allow better exposure to sun and air currents. This was also seen to affect pupils' physical and psychological comfort, and to influence their level of understanding and concentration. Respondent's reported that overcrowded classrooms were more likely to suffer from lack of ventilation. Few related this notion to the pupils' sense of belonging. Maintaining distance from adjacent buildings was thought to improve indoor airflow and sunlight. The use of bright colours was useful for improving indoor penetration of sunlight. Internal classroom height was considered to be another relevant factor.

This is another reference to the nineteenth century model, where spacious classrooms were articulated as pavilions, linked together by marching corridors, colonnades, halls or open courtyards, combining the advantages of cross-ventilation and all-around natural light within classrooms (Dudek, 2000).

Building orientation is an important parameter in responding to suitable thermal control, natural lighting, wind directions and ventilation. Classrooms are best oriented towards north and east directions, where the worst orientation for study rooms is south and west (Saleh, 1984).

Natural ventilation can provide better performance and a more desirable atmosphere. It supplies fresh air, provides a renovated source of oxygen for respiration, removes hazardous gases like carbon dioxide, reduces harmful bacterial, removes undesirable odours, and fosters thermal comfort by cooling the interior via convection and excessive heat removal.

Quiet

This notion was brought up 127 times, most often in the site questions: 54 times in the first and 37 in the second. People referred to noise that may be caused by surrounding markets, busy roads, or nearby railways for example.

Respondents related 'quiet' to concentration and understanding. It was also frequently related to psychological comfort. It was seen to reflect good discipline and as a sign of sound ethics. Overcrowding was given as a major reason for classrooms not having a quiet atmosphere.

McGuffey (1982) suggests that thermal, visual and acoustic environments, as well as overcrowding, are significantly correlated with learning activities and students' attitudes.

Although 80db was experimentally found to be the maximum permissible noise level to sustain good working efficiency, this does not imply that totally soundproof spaces achieve the best concentration and production rates. On the contrary, a drop in concentration accompanied by increasing mistakes was reported under experimental produced full silence (Khafaji, 1987).

Gardens

Reference to greenery and gardens was made 126 times in the adults' questionnaire and 13 times in the children's. People thought of gardens, green areas, trees, flowers and plants as agents of nature, which should be strongly represented in the school environment to allow pupils direct contact with it.

People considered the hygienic dimension of greenery in reducing pollution and improving the quality of air in the school environment, and in addition more generally in the town. Gardening activities were highlighted by some respondents as benefiting pupils, both for their education and personality. Under this context we can also include the desire for pet-corners. The pleasant atmosphere associated with gardens was addressed by people as a source of psychological comfort. Aesthetic quality was associated with gardens more than with any other element. Pupils and teachers interrelations were thought to be improved in such natural settings.

In addition to the hygiene dimensions highlighted above by respondents, such as providing water, oxygen, airflow, water cycles, sunshine, soils, and climate, Rolston (1988) identified further utilitarian values of nature.

The contribution nature provides to children comes in both subjective and objective terms. Rolston (1988) refers to nature as a carrier of both objective and subjective values, and states that culture is bound to the bio-system. She suggests that ecology always lies in the background of culture. Culture and nature have entwined destinies, similar to the way minds are inseparable from bodies.

The Egyptians' have a special attitude towards open spaces and gardens. Gardens have always been considered as places to live and interact with rather than to look at. Their physical attributes have always reflected their sacred views about life and the hereafter. The earliest record of gardens in human history comes from Egypt, where the idea of paradise was centred. Sacred lotus, palm, papyrus, and fig all symbolised noble meanings to ancient Egyptians. The love of flowers and gardens became part of the national Egyptian make-up. In Islam, plants are seen as a symbol of God's ability to create life even in the harshest environments. Gardens are mentioned in the Qur'an over one hundred times, usually denoting paradise. Additionally, a garden in the Egyptian dialect is named 'Genaina', which is a small 'Gannah' - i.e. paradise in Arabic (Abou El-Ela, 1996).

One may also refer to the subjective context of learning through the employment of natural diversity as a kind of raw material for advancing the exchange of information and understanding among and between mankind through metaphor, abstraction and analogy (Kellert, 1999). Human knowledge can be understood as evolving subjectively from within nature. Environment is known to be a continuously evolving mental concept, underlying any perception of physical entities, which is in the process of continuous transformation based on interaction with that physical entity (Ujam & Stevenson, 1996).

The direct or objective context of learning from nature refers to the direct experience children acquire. The garden can be an essential extension to the teaching space of the school, learning about plants, worms, soil ... etc. Whilst the school buildings remain the context for more formal teaching activities, the outside spaces become the freer context for children to learn through play (Dudek, 2000).

In relation to the effect of nature on children's personality, a factor intensely referred to by respondents, Titman (1994) suggests that a correlation exists between the development of creativity and ecological experience in childhood. Natural environments and places offer variety, diversity, challenge, and 'potentiality' for change.
Additionally, the natural world offers a limitless stage for sharpening critical thinking skills, problem-solving abilities, and analytical capacities. Observing and examining natural process provides people with an array of challenging opportunities for acquiring knowledge, developing understanding and improving evaluative aptitudes. Natural diversity provides an especially accessible and stimulating context for pursuing intellectual competence. Yet, people extract physical, intellectual, and emotional values from personal exploration of the rich tapestry of nature's many shapes and forms, above all its outstanding plants, animals, and landscapes. These values come out in the form of extended capacities of imagination, curiosity and adventure (Kellert, 1999).
There seems to be something about loving the soil, the labour and patience of raising crops, that couples well with values like trust, honesty, humility, simplicity, frugality, serenity and independence. Although these virtues can be learned in towns, they are nowhere better taught than in an encounter with rural nature (Rolston, 1988).

Aesthetic perception is one of the influential factors in shaping personality, which many respondents highlighted. Beauty in nature can engender recognition of harmony,

balance and grace. People may also discern unity and order in certain natural features, and these aesthetic expressions inspire and instruct. Aesthetic preference for natural diversity also fosters interest and curiosity. These in turn encourage wonder and mystery, which enrich our capacities for exploration, creativity, discovery and learning (Kellert, 1999). Trees, flowers, and ponds are part of the vocabulary of the natural landscape which children readily interact with. In addition to their value in improving air quality, they are widely believed to have pleasurable and aesthetic effects on human lives (Sommer & Becker, 1974).

Katcher and Willkins (1993) as well as Sperell (1986) confirm people's perception of nature to have implication on the sense of belonging. They suggest that nature represents a powerful source for emotional belonging and attachment, especially through companionship with others.

It was pinpointed that the natural world constitutes a subject for deep affection, expressing love, and friendship. These feelings of relationship and connection provide intimacy, a way of expressing trust, and a sense of kinship. Bonding and affiliation remain critical pathways for developing the capacities for co-operation and sociability. Caring and being cared for offers a means for expressing affection, companionship, and association. Through the shared conviction in life's underlying meaning, people achieve a sense of cohesion and mutual commitment (Kellert, 1999).

The following discussion briefly illustrates how the garden can play an important role in development. First it has a utilitarian role in improving air quality, having a direct influence in the occupants physiological wellbeing. It also adds an aesthetic touch to the school environment, responding to human aesthetic needs and psychological comfort. It provides a good environment for practising activities like gardening, which are important for active learning. It is a good context to derive taught subjects from a local perspective. It is a powerful way to relate children to nature, which has a significant importance as discussed earlier in chapters four and five. It is a great place for the school population to meet, gather and socialise, in accordance with the Egyptian inherited culture of appreciating such places. Such socialisation reflects on personal feelings of belonging to the school and to the community in general. Gardens also provide a good medium for challenge, exploration, creativity and personality development.

Pedagogy and Curriculum

Respondents highlighted the need for improving the curricula and applying modern pedagogies 120 times. This was mentioned most by parents [50 times]. Children complained [16 times] about problems associated with some curricula and about excessive homework. However children also expressed appreciation for teachers adopting different ways to help them understand.

The reason many teachers and administrators did not refer to this notion, is that they have had no role in this process in the past, and they know that any change to curriculum or pedagogy is likely to be dictated by the central authority.

People were keen on applying modern methods of education to improve levels of children's understanding, benefit and attainment. They considered this would improve the overall quality of education and better prepare the coming generation for dealing with the future. This was due to the general perception of education in Egypt as being stuck in the 1950's, and witnessing very few developments since then. People constantly complain that curricula contain irrelevant information.

Knowledge is seen to be dead unless it is instrumental in interpreting the world of active experience. The gap between educational theory and practice is quite obvious. Too much of what is taught is of little help in understanding the world in which we live or as preparation for living in it. School and 'life' are too far apart, and what is worse is that the gap between them is being accepted and taken for granted by everybody, to the extent that schoolchildren may scarcely seek any relation between school knowledge and life experience (Jeffreys, 1972).

Dependence on memorising in favour of understanding and extraction was a major deficiency in the undertaken pedagogy which parents complained about. This results from the classrooms' unspoken goal of pleasing the teacher, which is very common in Egypt. In the majority of classrooms children learn that creativity is punished, while repeating memorised responses are rewarded, they concentrate on what the teacher wants them to say rather than understanding the problem (Maslow, 1973).

Extensive homework was a constant complaint made by parents. People want an education that qualifies their children to really learn, rather than merely passing exams. They want an education that fosters their creativity rather than following pre-set out-of-

date criteria. Wild (1990) referred to this in the context of the need to prepare children to deal with future situations, not to copy what their ancestors have done in previous times. Undertaking research tasks is another approach raised by respondents, and one which is in fact part of Elkind's model.

The move away from practical task-based group activities towards forms of learning assessed and delivered by paper and pencil tests [i.e. certain unified number of subjects with specific curriculum to be taught and tested at all schools – as in Egypt] created profound difficulties for teachers who became overwhelmed by the weight of bureaucracy involved. In addition, the concern is that this more passive form of learning may create a generation of adults who are unable to think for themselves, thus undermining the perceived virtues of imaginative creativity and freedom of expression (Dudek, 2000).

Respondents expressed preference for teaching methods that would appeal to children and achieve such aspirations. In a selection of his published works (1997), Piaget confirmed that teaching methods should not work against the child's nature, but should alternatively awaken all their latent abilities through which the individual would serve society, and promote its development.

People also referred to the integration of different areas of knowledge as an essential characteristic of learning. This was seen to be possible through the interpretation of knowledge as a living thing which people build together (Lowell & Devlin, 1999). Play learning, which was first introduced by Piaget, should foster such reciprocal dependency as explained by Wild (1990).

Active experimentation was also mentioned a lot by respondents. This also forms part of Elkind's view of active learning. This emphasises the importance of having modern laboratories and up-to-date facilities. Camping, excursions and site visits are also a means to promote such an approach and to improve pupil's contact with local environment (Elkind, 1976). Involving children in thinking and discovering their own ways of learning, through free activities and experiments, experiencing repeated functions with fresh new contexts is crucial (Piaget et al., 1932).

Some teachers suggested applying theatrical curricula. This is a pedagogy in which pupils act out different roles in a play-like manner. In realising this play, every pupil

thoroughly studies his role, and his fellow pupils will remember the lesson actualised by their friends. An example of this in a science lesson may be having a pupil play the role of a protein to say what he does to the human body, another may be the carbohydrates telling the same, where others may take the roles of different minerals and vitamins, and so on. When pupils are later asked about a certain component it automatically comes to their mind in the form of the colleague who played this role in the play.

Additionally, parents expressed concern about adopting pedagogies that do not recognise age differences, as well as personal capabilities. The open plan concept came out of the need to get out of the traditional 'chalk & talk' row-organisation in classrooms and the recognition that individual children have different needs and abilities (Rintoul & Thorne, 1975).

Respondent's believed that the application of appropriate approaches was largely dependent on teachers' ability and qualification to undertake them. Many respondents have seen modern pedagogic approaches as crucially influential in the development of school community inter-relationships.

Dewey (1966) sees educationalists' task to develop pedagogy and the curriculum to fulfil the individual needs of children, and to create small communities which would work co-operatively towards common goals.

One may add May's (1999b) suggestion to employ culturally preferred forms of pedagogy, such as peer tutoring and collaborative teaching. These are to be used in collaboration with general schooling methods.

Examples of culturally relevant curricula and pedagogies are the school change group *"Ciulistet"* in south-east Alaska (Illutsik, 1994; Lipka, 1994), and the *Sámi* experience in Norway (Todal, 1999).

Overcrowding

Classroom overcrowding was one of the important notions highlighted throughout the questionnaire. Adult groups referred to it 119 times, and was raised by children 30 times.

The first administrative response to the 1952 revolution to the demand for free education for the masses resulted in a limited number of places with only a few new schools being opened. The number of pupils per classroom reached 70 in some cases, as confirmed by some respondents in this survey. The solution was to erect more

classrooms on playground areas. Such an increase in pupil numbers obviously sacrificed pupil's share of every school facility, from playgrounds to toilets. This was discussed above under 'spaciousness'.

Overcrowding was highlighted by respondents as a significant factor affecting pupils' health and safety, subjecting them to contagion and accidents. It was also mentioned that this would affect their understanding, limit their attainment, reduce effective use of class time, and hence negatively affect the overall outcome of education. Teachers and administrators found disciplining and controlling the level of noise to be a difficult task with large number of pupils in small classrooms. It was also a source of poor relationships among pupils, and was thought to promote unethical behaviour. Overcrowding affects the quality of ventilation, which together with inadequate seating, significantly affects physical comfort. Psychological comfort is also affected by overcrowding. A number of people related this notion to pupils' love for and sense of belonging to the school. In most people's perception classrooms with large numbers do not allow the individualistic nature of the pupil/teacher relationship to develop.

It was stated earlier that overcrowding was one of the parameters which proved to have significant correlation with learning activities and students' attitudes (McGuffey, 1982).

Building Condition

Having a significant frequency of 177 indicates that the school building itself occupies an important part of the educational process. However, it is possible that respondents were influenced in this regard, knowing that this research was undertaken by an architect. This parameter may also have been influenced by the way questions were phrased, particularly the last section. On the other hand, that children also mentioned building condition 17 times among their early priorities makes it more likely to be a genuine issue, particularly when it comes to obvious factors like broken windows or leaking taps.

People referred to school buildings in a variety of ways, for example they expressed their interest in having new buildings. They brought up the level of maintenance such as wall-cracks, water leakage, broken windows ... etc. People also mentioned their interest in having non-traditional building forms, which may attract children and facilitate the application of non-traditional pedagogies. Parameters associated with building condition

included health and hygiene. Factors mentioned were dampness, and degree of belonging resulting from the feeling of being worthy of a better learning environment. Safety was raised in relation to the extent to which the building is robust and unlikely to collapse on pupils. There was also concern that broken windows may cause serious injuries to children. This was also seen as important from the perspective of aesthetics and improving pupils' appreciation of aesthetic values. Many respondents confirmed that such issues affect pupils physical and psychological comfort, which consequently impacts their level of understanding and attainment, jeopardising the whole educational process. People generally blamed the school-management for deficiencies in this area.

This phenomenon has its roots in the 'open door policy' adopted in Egypt in the 1970's. This policy resulted in the domination of materialistic values, and created a fertile environment for bribery and corruption. At this time many schools developed cracks shortly after completion, and in addition school repairs budgets were cut, which endangered school safety (MOE & USAID, 1990).
The central authority further limited the school-administrations financial authority, and regulated that major maintenance decisions should only be taken by the central administration itself. This obviously added to the complicated bureaucracy and created lengthy decision-making processes, leaving many buildings in a poor state of repair for long periods of time. School management is merely entitled for minor stuff such as replacing bulbs and the like.

Dudek (2000) suggested that poorly maintained buildings tend to encourage vandalism and a declining morale among pupils. Maslow (1987) maintained that the feeling of self-worth can be enhanced by a variety of things, including school maintenance. Having a school that looks good tells children they are themselves valued.

The building should not be looked at as something that will provide desirable development in itself. It is to be seen as the physical actualisation of complex ideas responding to personal, social and educational demands, which if catered for will support development. For example, well-maintained buildings promote a sense of belonging and esteem, and of course provide physical comfort. All these feelings improve the outcome of education and affect the overall development of society, as discussed in previous chapters.

Qualified Teachers

Teachers' capacities have an undeniable effect on the quality of education. It may even be a principal factor. This was referred to 109 times in the questionnaire results. The group who mentioned it the least were the teachers themselves. Children mentioned qualified teachers 8 times.

People referred to this in a variety of contexts. Examples included the ability to transmit information to pupils, the ability to deal with children's different abilities and age requirements, being up to date, being capable of applying modern pedagogies, and being seen as an example for pupils. Being honest and hardworking were mentioned in relation to the private lessons crisis, which causes huge inconvenience to parents and administrators, as an undisciplined act wasting time, effort and money. Many teachers claimed that they would be happy to stop these lessons if their salaries were improved to fulfil their basic needs.

Reference made to time is in line with Beauclerk et al. (1988) suggestion, that education should not monopolise pupils' time, but should relate more to traditional values of education.

Psychological Comfort

Psychological comfort was expressed 103 times in the adults' questionnaire and 29 in the children's. Although it is a very broad notion, the following discussion will introduce the ways people referred to it in this questionnaire.

One of the major influences on pupils' psychological comfort was their relationship to colleagues and teachers, which if associated with physical punishment, insults, inequality or suppression, is likely to cause psychological disturbance or at least discomfort to pupils. Children reported this as many as 17 times.

Within the context of primal therapy theory, it is expected that educational efforts be associated with real preparedness to fulfil the children needs and to avoid creating any new blockages. It is argued that parents [and teachers] who have undergone primal therapy would be most capable to look after their children adequately (Janov & Holden, 1977).

Less problematic in this regard were staff interrelations, which were associated with psychological comfort when involving love, respect, understanding and co-operation.

Providing sufficient staff rooms was seen as a reason for psychological comfort of personnel.
Parents mentioned psychological comfort with regard to having the school close to home, safety parameters, and having a larger role in the school.

Descriptions of the learning environment as dull, boring, pleasant, or appealing were associated with psychological comfort. These are seen to be highly relevant to the discussion of environmental hostility factors discussed earlier in chapter five. Reinecke (2000) suggested that this may take place when people lack a feeling of intimacy with the places they live in, due to physical and symbolic attributes of these places being unknown and cognitively chaotic. It may also occur through material, mental or spiritual impoverishment. The issue of boredom generated by poorly designed environments was reported by many studies as a cause of such hostility, which can result in all kinds of inappropriate behaviour amongst children and adults. Such hostility also takes place when the potential experiences offered by the environment do not correspond with the child's real needs, or even transmit the opposite message.
It is worth noting here that a pre-occupation with physical settings without an appropriate understanding of psychological dimensions may end up with useless product (Dudek, 2000).

Respondents placed similar significance on the aesthetic qualities and building condition, school hygiene and cleanliness, using pleasant colours and good quality materials, providing home-like environment, reasonable internal height, and removing high fences which make schools like prisons. These were all relevant to the users' psychological state.
It should be noted that people associated gardens, spaciousness, and sunny airy open spaces with psychological comfort. Classroom overcrowding and noisy environments were seen to have the opposite influence.

Particular types of activity in close proximity to the school were seen as having negative implications for psychological well-being. This included places such as slaughterhouses, stables and cages, police stations and hospitals, cemeteries and graveyards.

Schools failing to provide adequate levels of psychological comfort were seen to negatively influence levels of understanding and the children's sense of belonging. In this regard, Piaget states that taking account of the children's nature and psychology is of no less importance than the material they are taught (Piaget, 1997).

Locality

It is known that locality is one of the two pillars of endogenous development. People expressed consciousness about the significance of an education that stems from and relates to the local language, culture and traditions. A total of 90 responses referred to promoting the Arabic language, religious values [known to be a dominant parameter in Egyptian culture, for both Muslims and Christians], traditional culture and national sense. The largest number of these was seen in question five [23 times], which referred to the future of education. This can be interpreted as people's recognition that a better future should start at local domains. That children were also interested [17 times] in such issues is another positive sign in this direction.

This emphasis on local language and culture is in contrast to an expressed preference for foreign schools by 49 people. A thorough look at this shows that 71% of its frequency [35 times] was from question three, which concerned preferred schools. This would suggest that this response is partly a matter of respondents associating the apparent success achieved in these schools with the language they teach in.

Examining the historic development of the problem, Harber and Davies (1997) reported modernisation to represent increased secularisation. Education under modernisation usually involves teaching values that express esteem and adherence to international values rather than traditional modes. Social, cultural and religious values were sometimes largely ignored, being irrelevant or even seen as obstacles to the process of development (Durry, 1992).

The theory of dependency tells us that people in developing countries often seek job opportunities in multi-national establishments, which usually pay higher salaries, to achieve more desirable living standards. Employment in such corporations obviously requires a good command of foreign languages, which thus become favoured over local ones (Harber & Davies, 1997).

Fragile state theory relates the phenomenon of growth in foreign schools in Third World countries to social, economic and moral problems, as well as advancing the legitimacy of weak authoritarian bodies (Fuller, 1991).

The implication of globalisation and marketisation to education mostly appears in the domination of economic values, reliance on foreign traditions, tendency towards internationalisation, weakening local identity and culture, and reliance on alien imported models (Ingham, 1993).

Discussions on the relationship between economic, social and cultural development have gradually emphasised the rediscovery of the concept of culture, which goes beyond arts and literature to encompass a whole complex of distinctive material, non-material and emotional characteristics of a society or a group based on a system of knowledge, technology, values, traditions and belief. As is deeply acknowledged by many international organisations, the cultural dimension of development has now become a key concept for international development strategy (Waren et al., 1995).

Thus, indigenous knowledge should serve as a springboard to technological development, being dynamic rather than static, holistic and culturally bound, oral, experiential, and highly accessible although not documented (Titilola, 1990).

Language can be looked at as an aspect of culture or a way of expressing it. Thus, any harm or suppression of language would obviously influence culture in the broader sense. This suggests that caring for language is an essential part of preserving and reviving any culture. Thus, it is suggested that education should initially be conducted in the local language, in balance with providing adequate training on other languages (Beauclerk et al., 1988).

Education is seen to be a cultural instrument that ought to conserve, transmit and renew culture. Yet, 'civilisation', 'culture' and 'education' are connected in such a way that none can be healthy individually unless all the three are in proper relation to one another (Jeffreys, 1972).

Thus, there is broad agreement that values are an essential component of education, but catering for them explicitly in school life is laden with dilemmas, even dangers. In this regard, education should respond to social and cultural transformation. It is recognised that the main challenge is to adapt the content and methods of education to new

demands, while at the same time upholding educational standards and essential traditions and values (OECD, 1985).

Education has an important role in promoting a sense of nation as addressed here. The message conducted through school and the media is that the nation is my people, my country, my way of life. Under this model, no direct contact is required between the individual and the vast majority of one's co-citizens. It is only a continually renewed reciprocal faith to believe co-citizens are like oneself. It is neither natural nor rational will, but this faith, or we may say this imagination, which fills in the gaps. The human spirit searches for material to construct community, employing whatever comes to hand: ethnicity, religious belief, sexual orientation, vocations, anything that can provide a good medium for community imagination (Fettes, 1999).

Belonging

Belonging was mentioned 86 times throughout the adults' questionnaire, and 10 in the children's. It is known to be one of the basic needs Maslow highlighted. Belonging was associated with many notions, one of which was hygiene, meaning that a clean and hygienic school environment promotes a sense of belonging for both children and staff. This sense of belonging is also promoted when sound interrelations exist between staff and children. Leisure and play, playgrounds and gardens, and aesthetic settings were also perceived as parameters improving belonging.

Belonging and love needs are about giving and receiving affection. When these needs are unsatisfied, a person will feel the absence of friends, mates, or children, and so relates to the avoidance of loneliness, rejection, friendlessness and rootlessness. It is, in brief, the essence of relationships, sense of belonging and rootedness (Maslow, 1987).

Gust (1985) carried out a study to pinpoint how basic needs are met in schools. He interpreted love and belonging needs to be represented in schools through class meetings, friendship groups, counselling, genuine caring for child, and the like.

Under the same umbrella of belonging lies building condition, use of materials and the feeling of homeliness. People also referred to the sense of ownership as promoting belonging. Staff rooms provision was another form of ownership that promotes staff belonging. Parents also expressed concern about the extent to which they belong to the

school, and believed they and their children should participate in school life to have the feeling they belong to it.
In this regard, Hart (1999) states that children develop a sense of love and care for their environment through active participation in it and autonomous unlimited contact with it.

Another version of participation raised by respondents was the blending of the school into society and integrating their facilities, as another factor to promote belonging. An emphasis on local language and traditions was a virtue of belonging to the community and, in a broader sense, the whole country. On the other hand, overcrowding and noise were reported to reduce feelings of belonging both for children and staff.

Pupil/Teacher Relationship

Parents and administrators, who raised the issue of pupil/teacher relations 85 times, considered that this relationship should be based on respect and love rather than fear from physical punishment or enforcement to pay for private lessons. This special relationship seemed to be of a higher significance to children, who mentioned it 51 times [ranking third in terms of importance], 21 of which were in the first question [this is a high number compared to the size of the children's sample]. It is striking that this relationship had higher priority in children's perception than their relations with their peers.
Respondents believed that this relationship can lead to better achievement and can enhance the quality of education when built on individual recognition. Teachers should also be a good example for their pupils. It is known in this context that figurative learning relates to imitation, memory training, speech, manners and customs (Wild, 1990). So if teachers set a good example to pupils, and are loved by them, they are more likely to be imitated.

This relationship can promote the sense of belonging, which Maslow highlighted as one of the basic human needs, as discussed above. It can also benefit the need for esteem and being esteemed, which relates to people's need of high evaluation of themselves, for self-respect or self-esteem, and for the esteem of others. The teachers' role in responding to the desire for the strength, achievement, adequacy, mastery, competence, and confidence in the face of the world is quite influential. Upsetting these needs produces feelings of inferiority, weakness, and helplessness (Maslow, 1987).

Respondents confirmed that aspects such as a prayer room, joint activities, and play learning promote this relationship in an informal setting.

Courtyards, assembly halls, internal streets and central promenade walkways play a significant role in bringing people together, and providing an informal social focus by hosting school exhibitions and communal meetings. The assembly hall generates a natural sense of community beyond the limitations of the class base. For the children, assemblies represent a continuing socio-cultural experience throughout their life in the school. In regard to spiritual and moral concerns, the assembly hall is the point where the staff are informally presented to the children (Dudek, 2000).

Pedagogies such as open-plan classes provide better opportunities for the development of such personal relationships. It facilitates further relations of children with larger number of teachers, hence they become more sociable (Rintoul & Thorne, 1975).

What is wanted from schools goes far beyond access to knowledge. Dewey (1966) sees the educationalists' task as developing pedagogy and curriculum to fulfil the individual needs of children, and create small communities in which they work co-operatively towards common goals.

Staff Relations

Staff relations was referred to 85 times. Parents were the least concerned about this notion, in contrast with teachers who addressed it 46 times, most of which related to good management practices. Teachers thought sound relations should be based on trust, co-operation, support, friendliness and family-like attitudes. They also complained about hypocrisy and lies leading to inequality and considered nepotism as characterising many administrations, creating hatred amongst fellow teachers.

Respondents confirmed that such an atmosphere affects everybody's psychological comfort and sense of belonging as well as their devotion and willingness to improve the school's status and educational quality in general. They also referred to their right to participate in school management.

Spacious open spaces and gardens were perceived as a good medium to promote social interaction among staff members. Providing suitable rooms for staff was another influential factor. Administrators thought that discipline among teachers promoted better relationships among staff.

It is worth noting here the perspective of relatedness forwarded by Alderfer (1972) in the [ERG] theory, which identifies relatedness as concerned with interpersonal relations with others. Staff members, as human beings and as part of the school community, should have their basic needs fulfilled. Amongst these basic needs are belonging and love needs, which involve giving and receiving affection. This applies to staff as it does to pupils (Maslow, 1987).

Sergiovanni (1967) applied motivation hygiene theory to teachers, and found that teacher's motivation was affected by poor interpersonal relationships with students, colleagues, or parents; a factor that was found to contribute significantly to teachers' dissatisfaction.

In Stairs' (1957) terms, the majority of respondents wanted a shift form *Gemeinschaft* of locality, i.e. community of physical life in terms of living together in the same school, towards *Gemeinschaft* of mind, which implies co-operation and co-ordination in action towards a common goal. Fewer numbers had the view of the *Gemeinschaft* of kinship, which signifies a common relation to, and share in human beings themselves.

Corson (1999) confirms the importance of collegial and collaborative relations among staff. School organisation was reported to affect its community relations. Many schools in Egypt are run under classical organisation theory, characterised by well defined rules with no place for developing emotions as discussed above (Weber, 1964).

One response to people's complaints may be the 'organic deal' outlined by Burns and Stalker (1961) under contingency theory, which is characterised by notable tendency towards adopting small and simple structures, with autonomous shared power and influence. Humanistic approaches recognising individual's role are also favourable for indigenous community-based education, an example of which is the clan perspective. Clan identification conditions represent the members' agreement on acceptable behaviour, constitutions and legitimate authority that is usually justified by traditions. Yet, the rituals contained in the information system should be reflective of the organisation's norms and values. Stable staff is a necessary feature too, which should come through selective recruitment and intensive socialisation (Ouchi, 1980).

It is noteworthy that indigenous models should not be seen to be against organisation. Kinship loyalties for example, make for strong local ties, which can form a base for launching sophisticated forms of organisations and institutions (Beaclerk et al., 1988).

Under the same theme lies collectivist theory, seen to deepen the sense of sharing, solidarity and belonging, as well as promoting integration with daily life and community norms (Ouchi, 1980).

Undertaking open-plan pedagogy provides further opportunities for staff members to work collaboratively and enhance their interrelations. New teachers are easily absorbed and find more security in an ongoing teaching situation, in which they can develop professional skills alongside the established teachers. Staff absences can be more easily covered as the existing staff know the children and can help a supply teacher to take over more easily. Open-plan also promotes social interaction among teachers when every five teachers have to work together and exchange experiences (Rintoul & Thorne, 1975).

Pupil Relations

This was referred to 57 times, mostly by parents. This was more important to children than the rest of adult sample. It ranked sixth, scoring a frequency of 39. This was in the context of creating environments that allow healthier interaction among pupils. Examples of this are spacious playgrounds, beautiful gardens, suitable activity rooms, and avoiding overcrowding of classrooms, with bad ventilation and unhealthy attributes. The influence of school design, including gardens, courtyards, assembly halls, internal streets and central promenade walkways on school community interrelation was discussed earlier. Herman Hertzberger illustrated new ways of enhancing social relationships between school users through the organisation of its built form, e.g. 'Apollo School' and 'De Evenaar School' in Amsterdam. The classrooms were organised around a central atrium or communal hall with open staircases and stepped terraces, resulting in a spatial dynamic form enabling further pupils' social interaction to develop constant awareness of their relationship with their own class group and the wider school community (Dudek, 2000).

Emphasising the same meaning, Dudek demonstrates Aldo van Eyck's understanding of the sophisticated spatial ideas of harmony in motion, and the importance of 'spaces in between'. His work was characterised by abandoning the static symmetrical form favoured for school institutions, adopting a more articulated dynamic approach. He assembled blocks around open loggias and courts to mediate between inside and outside, creating a more fluid welcoming effect.

Applied pedagogy was reported by respondents to influence interaction and friendship amongst children. For example, competitive schooling may prevent students developing sense of connection to one another, and promote isolation and selfishness amongst the pupils. Sorting students in such a way may mean making one child's success dependent on another's failure, and teaching students to attend to personal interests rather than societal needs, weakening the overall social bond (Kahne, 1996).

The extent to which children can support and learn from each other should not be underestimated when they work together on group projects for example. Montessori suggested that child development is based on their creativity in contact with peers, particularly if they are allowed to mix within different age ranges. In an open plan system, for example, children learn from one another when a child sees an older pupil doing a certain thing while they both are in the art and craft zone for example (Dudek, 2000). It is important that schools give children a sense of accomplishment. Children get a great deal of satisfaction in helping someone younger or weaker than themselves accomplish something (Maslow, 1973).

A contrary view in relation to age association was given by the vast majority of respondents raising this point. Most favoured allocating children in separate groups depending on their age, so that younger children would not feel inferior, nor would older groups cause harm to them. This might be due to the traditional pedagogy adopted in Egypt, where people have not experienced any way of teaching other than the traditional row model.

Some parents referred to social and financial differences among children, which could result in problems between them. Having school close to home was seen as positive in this regard, as children would be of common social backgrounds, and they will have more opportunities to meet out of school hours.

Harber and Davies (1997) forward an interpretation of such parental attitude as a capitalist influence, i.e. dividing pupils into advantaged elite and less favoured proletariat workers. However, parents worries are also relevant to figurative learning, in which children learn from one another by imitation (Elkind, 1976).

It is also believed that industrialisation contributed to destroying the 'old social relationships' which were based on neighbourhood and substituted new social divisions based on economic function. This image is different to what took place in the sixteenth to eighteenth century, when people [including the aristocratic minority] shared common

national and religious events, dancing, singing and playing games, being all bound together in the life of local community (Jeffreys, 1972).

Respondents reported pupils' friendliness to affect the children's personality and psychological comfort and belonging. It is known that belonging and love needs involve giving and receiving affection, which if unsatisfied will result in feelings related to the absence of friends, mates, or children (Maslow, 1987).

Participation

This heading refers to parents' involvement, children's participation, and staff participation. Relevant issues were discussed above as part of 'integration with the local community'. It was noted that parental involvement scored the highest amongst the three [79 times]. Children participation was mentioned 11 times. It was also noted in the children's questionnaire that children participation was raised 6 times, significantly higher than parents' involvement which was mentioned only 2 times.

Parents were mostly concerned with having a role in directing their children's education. This concern probably emerges from the disagreements they might have in relation to some teachers' approaches. Administrators and teachers welcomed an enlightened sensible parental role. They believed that there should be continuity between home and school, and that what starts at school has to be complemented and supported at home, which was the same belief as held by the parents.
Respondents also highlighted the need for involving staff and children in school design and management.

Transitional state theory refers to the low level of participation inherited from Egypt of the 1950's. The revolution of 1952, that ended the monarchy in Egypt, resulted in centralisation, control and protection of the revolution. This undermined effective public participation at that time. Carnoy and Samoff (1990) blame the reason for such low participation in post-capitalist societies on the desire of revolutionary movements to keep centralised control of everything, in their desire to get rid of particularistic, authoritarian and corrupt practices associated with previous regimes.
However, The UNEP report of 1999 confirms public involvement, voluntary action and NGO participation to be strengthened in almost all countries [including Egypt], although the pace of change is still relatively slow.

An active role for the people in the process of development is a paramount. It is rare these days to find a document on development strategy or development approaches which does not refer to participation. OECD (1985) adds, schools function best when all actors, including teachers, recognise that a great deal expected from them. Community participation is an important factor in efficient school organisation. This complies with Paolo Freire's view in which he especially wants to enable learners to become active participants in shaping their own education (Corson, 1999).

There is almost a universal consensus regarding the role that parents play, and should always play, in their children's schooling. Indeed, it can be described as a basic right of modern society (Helgadottir, 1984).
Corson (1999) confirms the importance of two-way communication between home and school. Parents must be partners with the school, and everything possible should be done to help them appreciate the need for their contribution to this partnership, so that school and home can deal together with problems arising either at school or at home (Jeffreys, 1972).

To foster the process of community-based education, schools should bring their activities closer together with family activities, offering contact with adult specialists in tutoring computers, dance, drama, writing, library research, athletics, and after-school jobs. These are also excellent settings for the communication of cultural attitudes, and for the revival of cultural, managerial, and political skills (Fishman, 1991).

It is important to resist uninformed parents forcing their educational views upon teachers. Instead, parents and other adults should be friends to the pupil in their care, and share common objectives with all parties (Dudek, 2000).
To strengthen the link between home and school and to prevent problems with parents, they may be invited in small groups for a guided tour throughout the school primes during the school day. Schools may also issue guidebooks including short updates about the school. These can be prepared by teachers with assistance from the children. Some schools may arrange an annual book exhibition to show parents good books for children of different ages (Rintoul & Thorne, 1975).
Parental conferences may be held twice a year, during which parents observe classes in the mornings and meet with teachers in the afternoons. With such a level of

involvement, it would be logical and useful to use parents as consultants on curriculum content, and even hire them as instructors and support staff (Corson, 1999).
Employing the extended family principle, by involving parents in the administration of their children's schooling, should provide a support network for individual members and involve individuals in a reciprocal obligation to support and contribute to collective group aspirations (May, 1999b).

Titman (1994) found that there was little correlation between children's choices and those of adults, and concluded that most adults are incapable of accurately predicting children's preferences. Thus, where school grounds improvements are planned, participation by children is likely to lead to the design being more appropriate and this, in itself, will result in the children developing a different attitude to the school.
Hart (1999) suggests that the benefits of participation by children are much greater than simply making the product more appropriate for the user. He believes that real long-term benefits lie in the fact that the individuals involved develop confidence. Yet, children's participation is more import in terms of children's sense of belonging, responsibility, intellectual promotion and self-respect. It is recommended that 'child initiated, shared decision with adults' be the adopted level, in terms of Hart's model.
Titman (1994) states that participation is clearly synonymous with the development of a sense of ownership and belonging and for developing esteem and self-actualisation.
In this regard the Elton Report suggests that participation and ownership are influential factors in pupils' behaviour:

> *"Where pupils are provided with a pleasant environment they respect it and when they have contributed to it they treat it as their own. This applies to buildings, grounds and equipment. We believe that this sense of participation in the ownership of a school plays an important role in the way pupils behave"* (CEDS, 1989).

Corson (1999) confirms the importance of involving the community in all phases of planning and implementation. In a 1986 paper, Woolley found that if people are involved in the design and development of buildings they will be more satisfied with the results, and will look after the environment better.
In school design, the active involvement of more than one or two members of the school community is unusual. No matter how rigorous the designer's vision, it is the teachers [and pupils] who deal with the environment in use. All the complexities implied by the curriculum must be catered for, yet the classroom teacher is often given little more than a room deemed to correspond to the statutory area requirements (Dudek, 2000).

Physical Comfort

Physical comfort was mentioned 79 times, out of which 34 were by parents. This might be because parents were more concerned about their children's weakness. Children themselves referred to it 17 times. However what is most notable in this context is that both adult and children groups found it less important than psychological comfort.

Physical comfort was raised in association with spaciousness and overcrowding, ventilation and illumination, lack of toilets, the school being close to home, availability of good furniture, provision of staff rooms, and a preference for lower buildings.
Furniture was the most frequently mentioned among other facilities [45 times], which, when associated with classrooms overcrowding, caused serious physical inconvenience. The second most popular items in the children's lists of facilities were swings and play equipment.

Respondents confirmed that lack of physical comfort would affect children's understanding and may be reflected to children's belonging.
This is clearly relevant to Maslow's physiological needs, which refer to maintaining a constant normal state of the blood stream.

Thermal performance should be designed to provide a comfortable temperature range for pupils.
Since schools are basically used in daylight hours, high time lag materials are more appropriate in hot dry areas. These materials will store heat during the day and dissipate it inside the building when pupils are away. Lighter materials would be more desirable in moderate humid regions, characterised by limited variation in outdoor temperatures during daytime hours, and intense solar radiation (Van Straaten, 1967).

School Location

People referred to 'good location' 48 times. People's perception of good site criteria fell under a number of variables as discussed below.

A school should be close to home. This was mentioned 96 times, for reasons of safety and saving time and physical effort.

Beauclerk et al. (1988) confirm this view, suggesting that the school should be close to home to avoid excessive travel, to facilitate access to formal schooling, and to maintain contact with traditional educational approaches.

A school should not be close to slaughterhouses and stables [1], factories and workshops [57], and markets [15]. The reason given for this related to providing a quiet atmosphere for learning, and worries that children may pick up inappropriate words or behavioural patterns from workers and traders. Reference to pollution levels and bad smells was also made in relation to these places.

Aiche (1987) confirms that a school location needs to be far from all sorts of pollution, industrial activities, and busy roads that usually cause undesirable noise and pollution, and endanger students' safety.

On the other hand, the respondent's reference for keeping schools far from markets contradicts the Rough Rock school experience, where adult education, arts and crafts enterprise, a laundromat, toy and small furniture factory, a medicine man training project, and many other economic enterprises were organised and operated through the school. Community members staffed these projects, and parents and grandparents lived in the school dormitories and guided students through storytelling and other traditional teachings (Dick & McCarty, 1997).

Being near a cemetery [3], hospitals [3], and police stations [4] was unwelcome because of undesirable happenings that may affect children's psychological well-being.

Respondent's thought that a school should not be close to coffee shops and cinemas [3], so as not to tempt pupils to leave their school or wasting their time.

This contradicts with Dewey's educational vision, in response to which new schools include streets and shops, banks and a choice of restaurants adjacent to more traditional teaching spaces, to form a more controlled version of the school as a microcosm of the society (Fisher, 1997).

For safety reasons, respondent's thought that schools should not to be close to high-speed and busy roads [47], nor to canals [4] and railways [5] which are also associated with noise. The provision of suitable crossing areas near school entrances was thought to be safer for children [4]. Having a number of entrances and exits was seen to contribute to children safety [20], distributing large numbers of pupils to several outlets.

Accessibility [41] to schools was considered to be improved by placing them close to main, well-built known roads [15], as well as avoiding areas of traffic congestion [32]. In this regard, some parents also thought that a school should possess a reasonable parking area [9], so that parents picking their children will not cause unwanted traffic jams. Some respondents expressed appreciation for a school being close to public transport [14] for reasons of accessibility.
Aiche (1987) confirms that a school should be easily accessible through a well-maintained street-network.

The availability of an infra-structure was mentioned [8], probably in relation to those schools built on the outskirts of Cairo, where the infra-structure network is not yet fully in place.
After World War II, schools were often located around the edges of expanding suburbs, rather than in urban locations within city centres. This was intended to provide spacious classrooms, halls and green-fields, as basic elements of the open-air school (Dudek, 2000).

54 respondents emphasised the necessity of keeping a reasonable distance between the school and adjacent buildings. The reason for this related to a desire to maintain a respectable margin of privacy [18] for local residents, as well as preventing outsiders from interfering or even looking at what happens within the school, in a manner that might affect children's concentration, or contradict with the educational message the school conducts. Some respondents related this to preventing the children from seeing things they should not see, or listening to inappropriate conversations which may have significant effects on their behaviour.

6.13 Conclusion

Qualitative analysis, because it draws on the interpretive skills of the researcher, opens up the possibility for more than one explanation being valid, rather than the presumption that there must be one correct explanation (Denscombe, 1998). Thus, it is important that the above findings and analyses be looked upon as opening the way for future studies.

The theoretical framework outlined in Part Two of the thesis proved to be strongly grounded in people's perception and attitudes of schools in Egypt. Part Two also stated that the two main pillars of the endogenous model for development are locality and

participation. Endogenous development is a holistic concept. It responds to individual and societal dimensions, subjective and objective. The questionnaire findings demonstrated a notable tendency in people's perception towards this theme. The following conclusion briefly introduces the different elements in schooling and education that people have raised, showing how they relate to the endogenous model.

As was discussed in Chapter Five, in support of endogenous development, hygiene is an important element in Maslow's humanistic education. Spaciousness is one aspect that supports the endogenous theme at a number of levels. First at the individual level, it responds to physiological hygiene, safety, aesthetic and relatedness needs. The last can be seen as a source of societal cohesion, which is crucial to endogenous development. Such cohesion fosters participation, and collective effort towards the improvement of particular groups of people who share common local grounds. From another perspective, it has a utilitarian function, to provide further possibilities to include more elements supporting better education as a major component of development. In this context reference is made to Fadaka (1982) who suggests that education is subordinate to social needs and development.

It was noted that the variables of 'hygiene', 'spaciousness' and 'future development' were graded in total frequency, where a clear gap was observed between them and 'activities'. This reflects a difference in the level of importance. This may be interpreted as an indication that these first three variables are regarded as the most important to people.

It was stated in Chapter Five that both Elkind's 'active learning' and Maslow's 'humanistic education' are supportive of endogenous development. Both these models emphasised the necessity of school activities and movement subjects. These subjects also respond to personal needs. For example sporting is a physiological necessity, and music and art are ways of self-expression and self-actualisation, as well as being responses to aesthetic needs. Collective work fosters co-operation, belonging and relatedness, which in turn promote the endogenous ideal at the level of the school, and subsequently at societal level.

In addition to their role in play, important for active learning, playgrounds are also perceived as spaces for social interaction in relation to the Egyptian culture. This gives

playgrounds higher significance within the context of endogenous development, in their use of local cultural elements to promote further social interaction and participation.

An essential component of development, from the Egyptian perspective, is the integration of the school with the local community. Two-way contact can take place through extending school facilities and services to the local community. In this way they can also benefit from improved access to the surrounding facilities and environment. In this case, the society will be more connected to the school, and will be more able to respond to its needs for development. Education can never be fully and properly related to the life of the community until the whole community takes its share in the work of education. It was confirmed that Cairene people believe that the expansion of the school into the outer world and the penetration of the outer world into the school are complementary processes, both of which are necessary to the achievement of reality and effectiveness in education.

Respondents highlighted the importance of ethical values being transmitted to their children by schools. In relation to the main context of this thesis, Ospina (1999) suggested that education should also be seen as means to bring about changes in behaviour and lifestyle, to disseminate knowledge and develop skills, and prepare the public to support changes towards development in all sectors of life. This raises personality formation within locally agreed codes from an individual aspect to a societal demand, as a principle for endogenous development.

In addition to the role of the school administration in managing the school affairs, it has a special role in the contact between school and the local community. In regard to this Corson (1999) confirms the significance of management's willingness to share leadership with the community, this also being a pillar to endogenous development. The relationships of schoolchildren, parents and amongst the staff relies heavily on the performance of the school-administration.

Gardens have a utilitarian role in improving the quality of air, which has a direct influence in the occupants' physiological well-being. It also adds an aesthetic touch to the school environment, responding to human aesthetic needs and psychological comfort. It provides a good environment for activities important for active learning such as gardening. It is a good context to derive taught subjects through local context. It is a

powerful way to relate children to nature, which has a significant importance as discussed earlier in chapters four and five. It is a great place for the school population to meet, gather and socialise, in accordance with the Egyptian inherited culture of appreciating such places. Such socialisation reflects on personal feelings of belonging to the school and the community in general. Gardens also provide children with a good medium for challenge, exploration, creativity and personality development .

The school-building should not be looked upon as something that can provide desirable development in itself. It should be seen as the physical actualisation of complex ideas responding to personal, societal and educational demands, which if catered for will support development. For example, well-maintained buildings promote a sense of belonging and esteem, and provide further physical comfort.

The above were examples of how respondent's answers related to the context of endogenous development. To sum up these findings, one may say that the endogenous approach is holistic, and deals with individual and societal needs equally. Although it is not easy to draw a sharp distinction between what is personal and what is societal, the following discussion tries to sum up the findings under a similar grouping using Maslow's hierarchy of human needs, the relevance of which to the endogenous model was outlined earlier.

From an individual point of view, physiological needs were outlined in many instances, including hygiene, health, physical comfort, quiet, and the influence of overcrowding. These were affected by the degree of spaciousness, orientation, building height, provision for playgrounds, courtyards, gardens and toilets, and the opportunity to practise school activities. Some of the facilities had direct influence on this notion, like the condition of the furniture and sporting equipment, and easily visible blackboards. The school site is relevant to this too, it should be close to home so that the daily journey is not physically tiring, and should be far from sources of noise and pollution for the health, comfort and well-being of pupils and staff.

Safety was mentioned as an independent variable. It was associated with reasonable spaciousness, low levels of overcrowding, suitable building heights, recognising age difference in classroom allocation, soft playground flooring and building materials, attention to earthquake design precautions, well-maintained school-buildings, providing

a school-clinic, wide corridors and staircases, and multiple exits. Schools should be located away from busy roads, railways, and canals, providing safe arrangements for crossing the streets. Also for reasons of security, schools should be close to home.

Responding to the need to know and learn is one of the primary functions of the school. This need is important for the individual and the society in general. Respondents suggested employing contemporary and appealing pedagogies driven by qualified teachers through the local context and allowing reasonable margin for participation. The vocabulary outlined under 'active learning' and 'humanistic education' was highlighted within this context. People talked about practising school activities, play learning and movement subjects. Provision of libraries, modern laboratories, computers and facilities was seen as critical for this. Playgrounds and activity rooms have an obvious role in this regard. Physical and psychological comfort as well as the degree of quiet and overcrowding affect learning and attainment.

Aesthetic needs were amongst the components though to have an impact on personality development. Aesthetics was mostly associated with nature, gardens, open spaces, building design, decoration and materials. People also related aesthetic needs to low levels of overcrowding, spaciousness, and bright colours. Some activities contribute to this need like art and music. Responding to these needs was seen as a source of psychological comfort, which in turn reflects positively on overall educational achievement and school relationships. The aesthetic settings extended beyond the school limits to include the site and surroundings, including the influence of surrounding fields, opposed to that of factories, highways, cemeteries, and slaughterhouses.

When we speak about the need for belonging and love, this simultaneously implies a societal and an individual need. It responds to a personal demand, and maintains a socially coherent community. Many issues could reflect on this, for example different parties' relationships within the school, the degree of participation they are allowed to practise, the pedagogy if undertaking collective activities and active experiences, building condition that expresses respect and fosters belonging, physical and non-physical integration with the local community, curricula that promote local values and propagate local domains. All these influence the sense of love and belonging to the school, and reflect to the overall sense of belonging and love to the local community,

whether a village, a district, or even a whole country. Open spaces, gardens, and playgrounds are all spaces which foster socialisation and improve such interrelations. Discipline and sound brought-up personalities affect this too. Physical and psychological comfort are important in improving this sense within the school and the community.

It is clear how the different notions addressed in the questionnaire respond to the requirements of endogenous development. They relate to futurity and development, respond to locality and reflect on participation. The following chapter employs a case study, to illustrate the practical application of the research findings to schools in Egypt.

CHAPTER SEVEN

CASE STUDY

Case Study

7.1 Introduction

This chapter introduces a case study to illustrate the practical application of the research findings to schools in Egypt. This case study is based on the new schools project undertaken in Egypt, with particular reference to primary schools in Cairo. It is intended to explore the extent to which reality supports the model of endogenous development. Bell (2001) suggests that such case studies "put flesh on the bones of the survey" (p. 11).

It was highlighted earlier in this research that education is a subordinate element in the system of a country's development. The previous chapters have outlined a number of areas which support the endogenous theme of development within Egypt. This theme recognises individual, societal and international requirements.

Thus, it is important to deal with the following application as **identifying the state of these criteria, with their implications for the development of the country**. This should not be perceived as assessing the status of these **elements in isolation from the state of development they feed into**. They should be dealt with as **part of greater whole**, rather than end-objectives in their own.

7.2 The Project

This school program was initiated in 1992, commonly known as 'earthquake schools', and is currently still undertaken in all State school projects. When this program started, the GAEB produced a set of prototypical school designs to implement throughout the whole country. These designs were meant to be flexible, to be applicable to different

sites with minimal modifications. The total number of approved models was seventeen, out of which only three were primary schools of six, eleven and sixteen classrooms. The rest are basic and preparatory schools, as well as general and technical secondary (MOE, 1994). In addition to these standard models, a number of modular units were developed to allow a variety of assemblies to deal with specific site constrains and conditions. Such standardisation was undertaken to speed up implementation and cut down expense. 'Appendix D' of the thesis illustrates the different modular assemblies and alterations for these schools.

The present study involved eleven-classroom and sixteen-classroom primary schools in Cairo. Six-classroom schools were not included in the study, because they were generally applied as extensions, or in very tight sites with special circumstances. Other assembled patterns differed highly from one another, with the result that it was not easy to undertake comparisons or outline similarities, particularly since many of these schools do not even follow the standardised assemblies initially suggested by the project. This means that two schools with the same number of classrooms, and composed of the same modular units, may differ considerably in terms of component relationships or orientation for example. The following description and information about these schools are referred to (GAEB, 1995)[1].

The eleven-classroom school, commonly named 'Model 28', is comprised of three masses connected with two staircases in a "U shape" assembly as shown in the plans figure (7-2). The smallest mass [to the right] is two stories high, encompassing two kindergarten classes in the ground floor, with an administration room and toilets, all surrounding a shaded area. In the first floor, three administration rooms are located opposite a large supplementary service room.

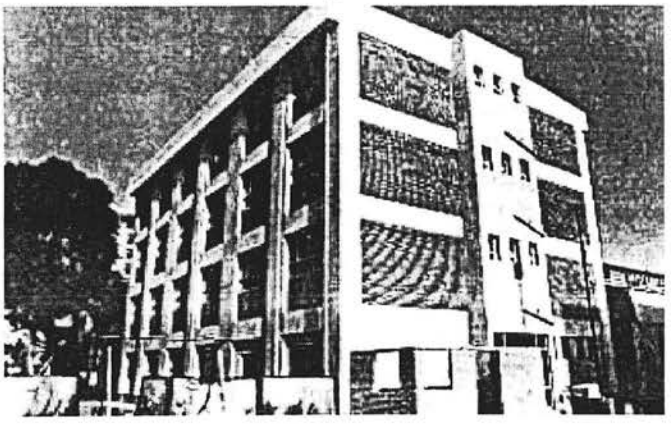


Figure (7-1) Exterior view of an eleven classrooms school 'Model 28' (GAEB, 1995).

[1] In this booklet, 'supplementary service-rooms' meant the library, gymnasium, theatre, and multi-purpose halls, where 'activity rooms' included music, drawing, domestic, agricultural, industrial and computer rooms. Teachers' rooms, social support, and clinic were included under 'administration rooms'. 'Utility

The second mass [to the left] is three stories high, accommodating two laboratories in the ground level, and activity rooms with their utility rooms in the following two floors. The third of them is a strip-like mass. In the typical floor plan, it has four classes on a single-loaded semi-open corridor. Toilets occupy the corridor's end, with utility and administration rooms beside. Another administration room occupies the opposite end of the corridor. In the first floor one classroom is utilised as an activity room. In the ground floor, two large rooms are located instead of the four classes, one for activities and the other for supplementary class use. The school components are illustrated in the following table (7-1).

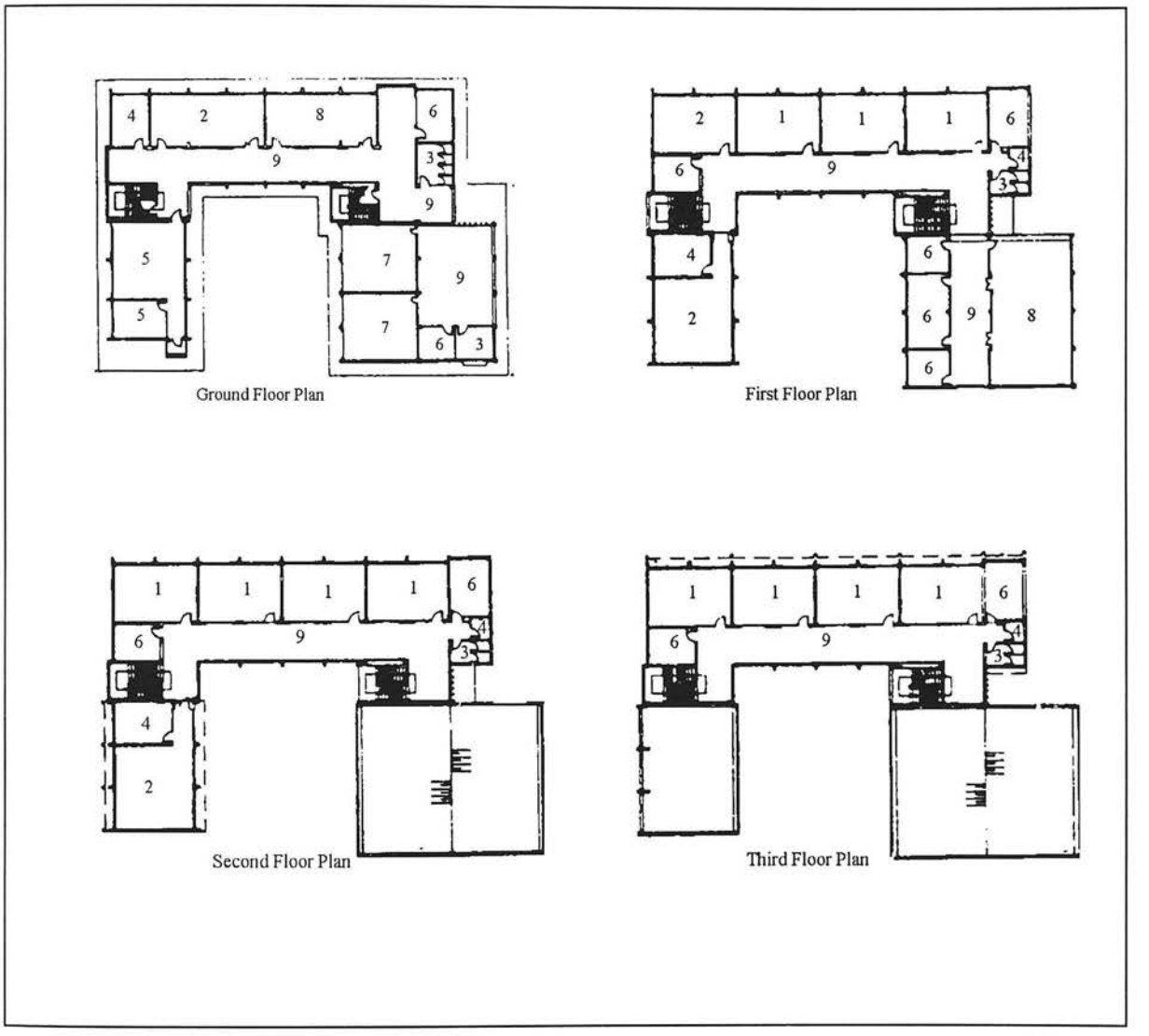


Figure (7-2) Plans of an eleven classes school 'Model 28' (GAEB, 1995).

rooms' denoted storage, maintenance, porter, electrical transformers, and preparation rooms, where shaded areas, staircases, lobbies and corridors were included under the label 'others'.

	Classrooms	Activity Rooms	Toilets	Utility Rooms	Laboratories	Administration Rooms	Kindergarten Classrooms	Supplementary service rooms	Others	Total Area (m^2)
Code	1	2	3	4	5	6	7	8	9	
Area (m^2)	484	224	55.5	83.7	90	234	112	200	886.8	**2370**
Count	11	4	5	6	2	12	2	2		
% of Area	20.4	9.5	2.3	3.5	3.8	9.8	4.7	8.5	37.5	

Table (7-1) Elements distribution of an eleven classes school 'Model 28' (GAEB, 1995).

Not much different from 'Model 28' is this sixteen classes 'Model 29', which uses the same mass assembly with one major difference. It has an extra story in the classes mass, as well as a slight redistribution of the school elements. As for the kindergarten classes there are three, located in the ground floor around a shaded area, each with separate toilets. In the ground floor of this model one of the administration rooms of 'Model 28' was replaced by more toilets, which were moved to take part off the activity room's area. Whereas for the first floor here, all four modules in the large mass are dedicated for classroom use. The rest of the floors are identical. Plans and project components are illustrated in the following figure (7-4), as well as in table (7-2).

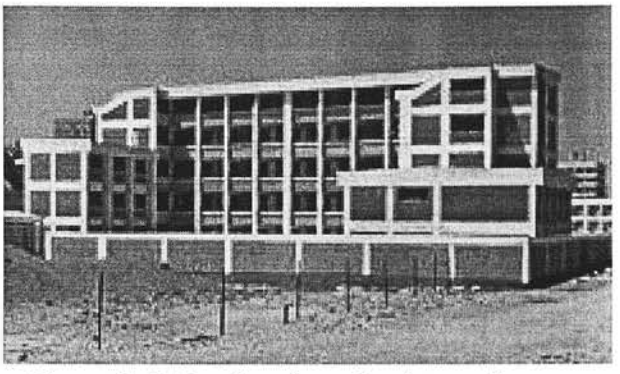


Figure (7-3) Exterior view of a sixteen classrooms school 'Model 29'

	Classrooms	Activity Rooms	Toilets	Utility Rooms	Laboratories	Administration Rooms	Kindergarten Classrooms	Supplementary service rooms	Others	Total Area (m^2)
Code	1	2	3	4	5	6	7	8	9	
Area (m^2)	704	180	69.4	89.4	90	242	144	162	1012	**2720**
Count	16	3	6	7	2	12*	3	2		
% of Area	25.9	6.6	3.5	3.3	3.3	8.9	5.3	6	37.2	

Table (7-2) Elements distribution of a sixteen classrooms school 'Model 29' (GAEB, 1995).
* figure(s) modified by the author due to contradiction between the figures written in the source and the studied plans from the same source.

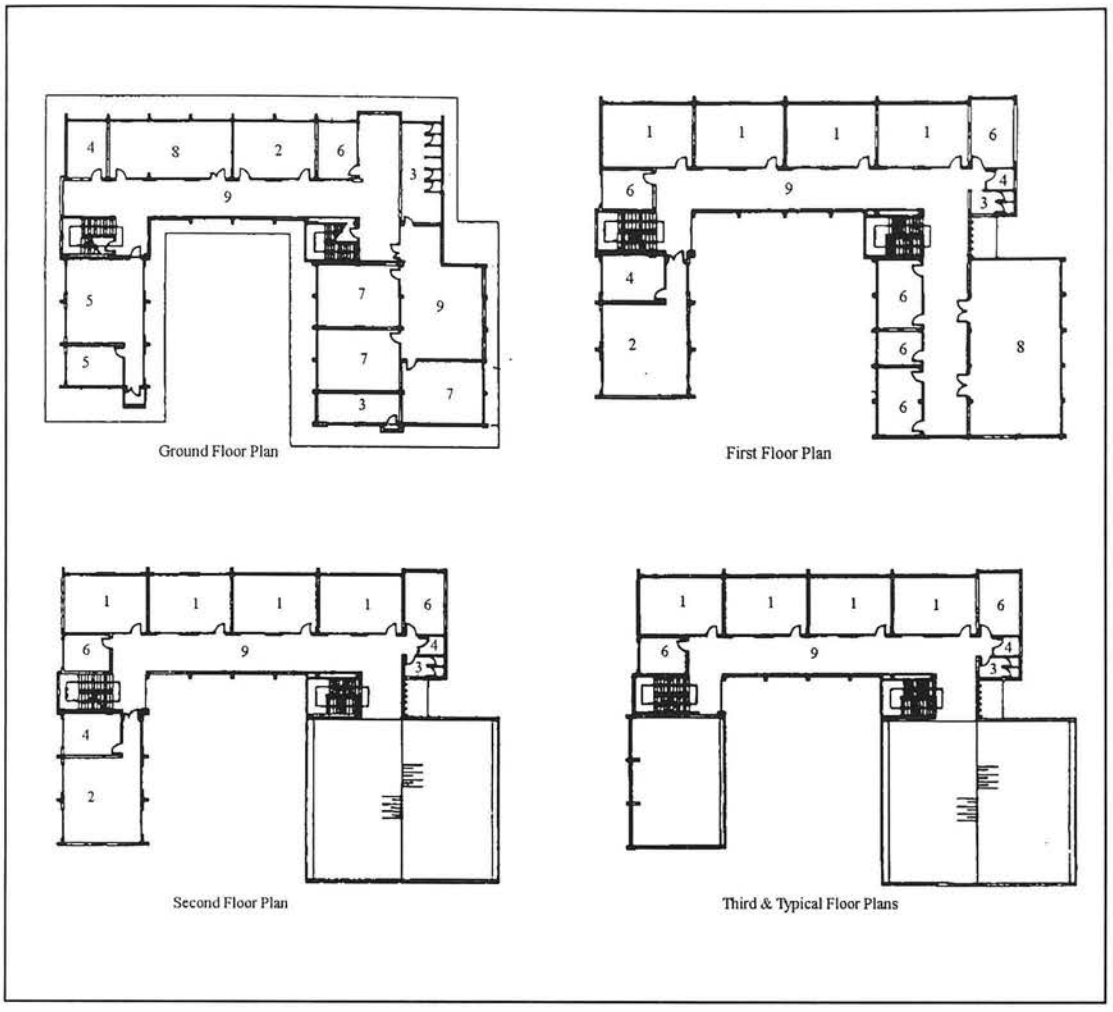


Figure (7-4) Plans of a sixteen classrooms school 'Model 29' (GAEB, 1995).

7.3 Analyses

The above was an introduction of the project schools. Following this introduction, the research introduces an analysis to show the application of the thesis findings to these schools.

It is reported that so-called 'generic plans', such as those used in this project, are known to smother the creativity of both architects designing the school and teachers who use it. This is because the plan is often copied to create a single model taking no account of the physical and social particularities of the site nor the creative aspirations of the designer. Standardisation of architectural styles leads to the loss of cultural characteristics and authenticity in design concepts of the built environment.

One may also refer to the poor public involvement in the design of these schools, in terms of implementation and administration. Although this is usual in school design, it is the teachers and pupils who deal with the environment in use. All the complexities implied by the curriculum must be catered for in a way that corresponds to their requirements, regardless of the designer's vision.

It was explained in the thesis that people realise their full humanity through association with one another, and that a good society should foster harmonious interactions among its population towards promoting common goals. Active role for people in development is a paramount. Public participation in decision-making usually reveals conflicts between different interest groups, and by working together people can learn from each other to resolve these conflicts.

If people are involved in the design and development of buildings, they will be more satisfied with the results, and will be more likely to look after them. The senses of participation and ownership are also influential in terms of pupils' behaviour, where pupils are provided with a pleasant environment they respect it, and when they have contributed to it they treat it as their own. This applies equally to buildings, grounds and equipment. Hart (1999) confirms that children develop a sense of love and care for their environment through active participation in it and autonomous unlimited contact with it. Titman (1994) confirms that participation is synonymous with the development of a sense of ownership and belonging.

The 'Modern Architecture Movement' was known for its rejection of all preconceived forms, precedents and traditions. Its buildings were composed of undiluted, pure, elementary geometric, abstract forms. Decoration was redundant and rejected. The materials of construction were left pure, with no applied decoration. The finished colours and textures of the buildings were those of the natural materials themselves. The structural system was expressed externally as well as internally (Mumtaz, 1985). Most of these descriptions can be seen in this project's schools, figure (7-5).

Figure (7-5) Example of a school building showing its modernist characteristics.

It is obvious from the description above that the design of these schools' was inspired from a Western theme that does not emerge from local Egyptian contexts.

A central problem in many developing countries is the designs produced by foreign designers, or locals who lack cultural and social consciousness, merely follow foreign design patterns. Although these designs may seem logical and orderly from an outsider's viewpoint, they are more often culturally irrelevant, environmentally inappropriate, and more expensive to build and maintain (Zulficar, 1983). The danger is that such designers do not know enough to fully understand local customs and needs. This is then reflected through a disassociation of these societies from their cultural roots, leading to the dichotomisation of cultural perception, where the historic heritage becomes identified with the past backwardness and poverty, while the future image of 'progress' is borrowed from elsewhere. This problem, created by this externally borrowed 'image of progress', poses a challenge for designers, sociologists and philosophers who have to articulate, for the societies of today, a vision of the future which is culturally authentic and yet incorporates all of the progressive elements that societies in transition rightly aspire to.

The significance of nature to endogenous development was outlined earlier. It was discussed in this context with reference to Wythe (2000) in that school building should be related to the surrounding natural settings. A building may, generally, respond to nature at three levels. Firstly by using local materials to somehow integrate with nature rather than imposing foreign material on it. Secondly, by preserving nature and designing the school building to comply with the natural settings of the site, whether trees, ponds or contours. The third and deeper level of integration with nature is to use natural metaphor and analogies in the form, concept, design, and element distribution.

It appears from figure (7-6) below that this project fails on all the above three levels. First, as for local materials and styles, it is clear how it uses aluminium windows and concrete structures, re-producing the same design in all different sites and environments. Secondly, one may easily notice from the middle picture in the same figure, for example, how the school was imposed onto the agricultural environment without maintaining its natural settings, it is clear that an agricultural land has been stripped of its plants and trees to construct this school. Third, the scheme is a product of modernist thinking, which is characterised by the pure elementary geometric forms, with no natural analogies or references as of the described above.

A school-building should be an expression of the culture, inspired by the architect and should respond to the aspirations of those who will use it. It should be at one with nature, and act as part of the site, not merely be a structure placed upon the site.

Figure (7-6) The same program applied in metropolitan, agricultural and desert areas.

The physical integration of a school building into the surrounding urban fabric was explained as an important parameter in fostering community participation, and as a major pillar of the sought after endogenous development. School fences were described as barriers hindering such integration. It was noted that all the new schools have high fences that segregate their sphere of influence in the community, isolate them from life around, and turn them into cocooned islands or secluded fortresses, as shown in figure (7-7) to the right. The role of the school premises in providing a social focus implies that the school should be a flexible and responsive structure, which is 'open' to society both functionally and symbolically. The expansion of the school into the outer world and the penetration of the outer world into the school are complementary processes, which are both necessary to the achievement of reality and effectiveness in education and development.

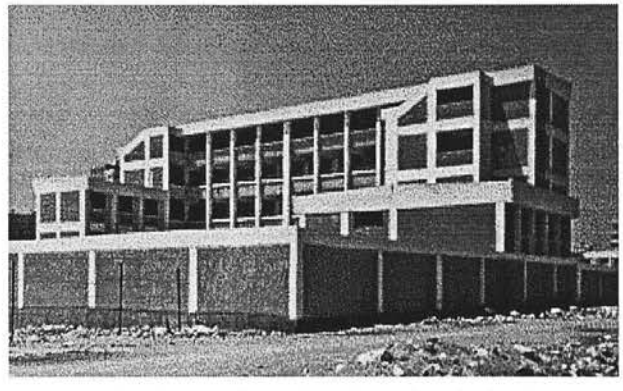


Figure (7-7) A view showing the high fences surrounding schools.

Putting people in direct contact with nature was shown to be of significant benefit to individuals and societies. The field observation revealed a remarkable lack of school-gardens. These are usually located in a narrow neglected strip of the school-site as seen in figure (7-8) below, if included at all.

At the societal level, bonding and affiliation are important for developing co-operative and social capacities. Caring and being cared for offers a means for expressing affection, companionship, and association. Nature represents a powerful source for such emotional belonging and attachment. Natural diversity provides a rich material for symbolic creation. This explains the employment of natural diversity for advancing the exchange of information and understanding between people. This is accomplished through metaphor, abstraction and analogy, and by using the media of language, story, myth, proverbs, fantasy, and other communicative means, which collectively with other parameters mould the culture of a society.

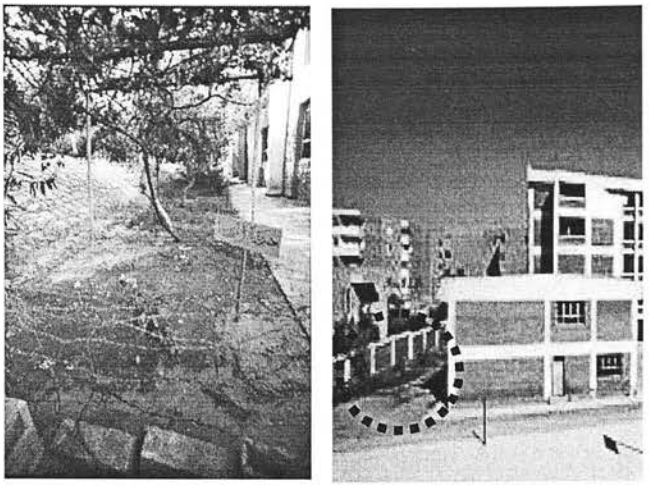


Figure (7-8) Little school gardens placed at narrow peripheral strips.

Whereas for the individual, 'operative learning' is defined by Elkind's model of 'active learning' to come through spontaneous experimental activity with a wide variety of tangible materials. In the same context, Sommer and Becker (1974) suggest that direct experience can teach much more than formal lecturing. The natural world offers opportunities for sharpening critical thinking skills, problem-solving abilities, and analytical capacities. Observing and examining natural process provides people with opportunities for acquiring knowledge, developing understanding and improving evaluative aptitudes. Natural diversity provides an especially accessible and stimulating context for pursuing intellectual competence. People extract physical, intellectual, and emotional values from personal exploration of the rich natural shapes and forms, above all its outstanding plants, and landscapes. These values come out in the form of extended capacities of imagination, curiosity and adventure.

In brief, nature is a source of disseminating knowledge as well as moral, religious, symbolic, aesthetic, and life values.

School gardens should become a positive aid to child development rather than being a hard plain area for physical exercise and a limited number of games. In addition to the above benefits of contact with nature, gardens can be an essential extension to the

teaching space of the school. Whilst the school buildings remain the context for more formal teaching activities, the outside spaces can act as a freer context for children to learn. A school garden can additionally introduce children to different planting seasons, and to ecology and wild life using magnifying glasses to identify snails, worms, spiders and beetles to know about the range of creatures found in and on the soil. For this purpose, nine habitats are recommended as necessary for school sites to provide a rich and diverse natural experience. These included ponds, different types of grass areas, hedgerows and vegetables and fruits plantation.

This emphasis on gardens is not to be interpreted as a denial of the need for hard open areas, which children may require for ball games, for example.
The significance of play in cognitive development has been thoroughly discussed in Chapter Five, that Schaefer and Berger (1997) confirm play to be the highest form of intellectual exercise for children, while Piaget referred to the significance of 'symbolic play' as to free children's inner pressures caused by unpleasant experiences.

Play learning is a great opportunity for emphasising the integration between subjects, and diminishing any imposed fragmentation. In a ballgame for example, children can experience the meanings of time, speed, weight, gravity, logic comparison, and rates, parallel with grasping the values of teamwork, co-operation, planning and co-ordination.

Good and sufficient playgrounds are needed to cater for this type of learning. They should be provided with equipment that improve children's learning and mental abilities. The most successful play-equipment is that allow children to adapt it, to make new meanings around it, and change its form and use, either in the real sense or at least in their imagination. The greater the potential of the equipment or item to be changed or manipulated the better.

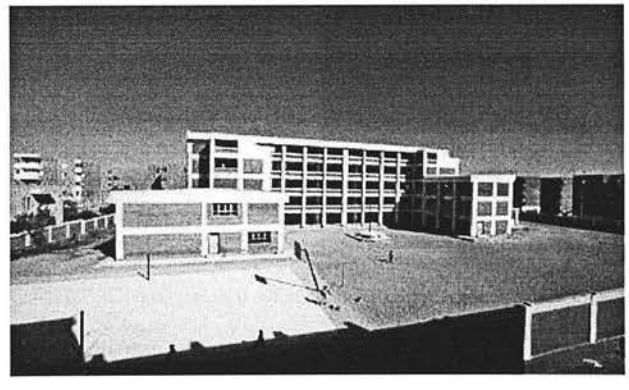


Figure (7-9) Poor playground equipment.

It was observed in the studied schools that very little or almost no play equipment was provided in playgrounds. Figure (7-9) above represents a typical playground in these schools, which shows the poverty in equipment and experiential diversity.

Dudek (2000) suggests that progressive educational methods change in Japan, USA and Europe roughly in a thirty-five year cycle, requiring new school premises. The spirit of such change is usually implemented through the adoption of new building techniques and educational practices, with the consequent construction of thousands of new schools.

As for the context of this project, although coming after a far longer period than the thirty years, it is clear that it has not been accompanied with new educational practices or building techniques. It still adopts the traditional 'chalk & talk' row-organisation in classrooms, as shown in figure (7-10) below. The following quotation from a study about Baltimore schools – USA, reflects the extent to which such organisation is out of date:

"Some buildings are still organised in the late 19th and early 20th century factory models of schooling in which classrooms are organised for 30-40 pupils in rows and columns, with rooms running along double loaded corridors." (Lackney, 1996: p. 11)

Figure (7-10) Interior view of a classroom.

Contrary to this project's classrooms, open plan was seen as important to support endogenous development. It directs classroom activities away from work in large groups, towards smaller group activities, adopting an open zoned approach to the organisation of the school. It was also found to improve the children's behaviour in relation to responsibility and sensibility. Children can support and learn from each other, particularly if they are allowed to mix within different age ranges. Children get a great deal of satisfaction in helping someone younger or weaker than themselves accomplish something. The open-plan arrangement promotes social interaction among teachers too while they are working together and exchanging experiences.

It was shown above how the general theme of these schools complies with the modernist style so-called 'finger plan schools'. Dudek (2000) suggests that they appeared due to dominant health and hygiene preoccupation at the time of World War I. Characteristic vocabulary of this school design involved spacious classrooms which were linked together by 'marching' corridors, colonnades, and open courtyards, to combine the advantages of cross-ventilation and all-around natural light within classrooms, Seaborne and Lowe criticised these schools, they described them as:

> *"they were among the most hygienic and ugliest of English school buildings"* (Seaborne & Lowe, 1977: p. 93)

School-buildings should regard aesthetic needs as part of human cognitive needs outlined in Maslow's hierarchy. Evidence exists, in all cultures and ages, that people get sick from ugliness, and are cured by beautiful surroundings.

This does not mean that caring for hygiene and physical comfort is problematic, it is only a problem when this concern does not occur in balance with other needs. However, the field study reported some shortcomings for these schools even in terms of providing physical comfort and hygiene demands.

For example, making a school as high as four stories plus the ground is thought to be inappropriate for little children and elderly teachers, having provided no lifts. This phenomenon has been observed through the field survey, and interpreted as part of basic physiological and safety needs. This was interpreted as a result of the high population and lack of vacant land plots in Cairo.

Saleh (1984) suggested that classrooms in Egypt are best oriented towards north and east directions, where the worst orientation for study rooms is south and west to achieve suitable thermal control, natural lighting, and to deal properly with wind and ventilation. It was noted form the assembly method undertaken in this program that classrooms do not follow a certain orientation. However, the application of horizontal and vertical sunshades, seen in figure (7-11) below, as well as the semi-open corridors have all contributed to reduce heat gain, solar radiation, and undesirable glare associated with dynamic movement of the sun during day hours, although this is still far from perfect.

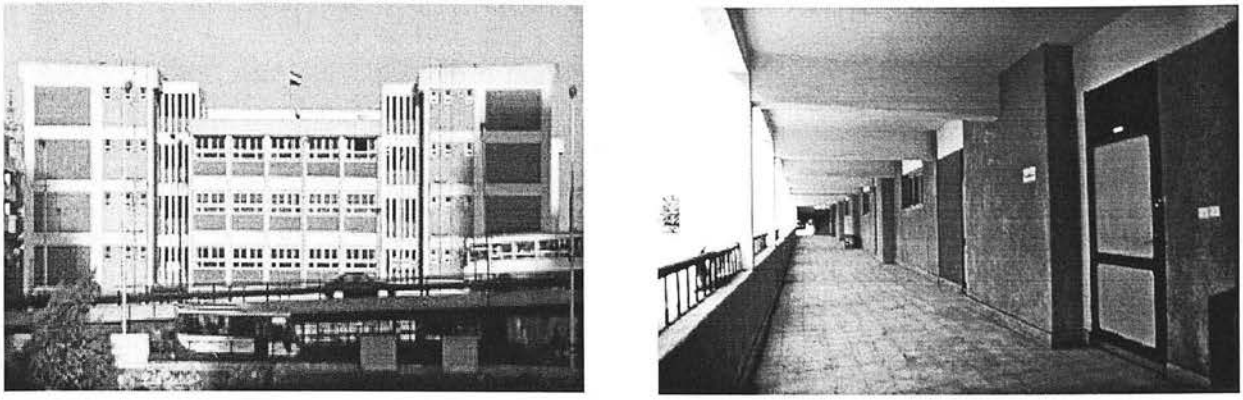


Figure (7-11) Vertical sunshades and semi-open corridors as climatic treatments.

Providing windows in both sides of the classroom [see figure (7-10) above] allows better natural illumination and cross ventilation. Although windowsills are high, to presumably allow better concentration, this contradicts the concept of contact with surrounding environment and social interaction discussed earlier. It can be noticed from the same photo that the number of students to be accommodated in the classroom is 36, although it was suggested by the statistics shown in Chapter Two of this thesis that the general classroom density is 42 students / classroom in Cairo. This obviously affects the level of physical comfort and hygiene demands. The classrooms lack the sense of spaciousness, which was heavily emphasised throughout the present survey.

Additionally, plans show a relatively few toilets which do not appear to be separated by gender (male – female) or occupation (teachers – students) in both models 28 and 29. Some schools solve this by specifying certain floors for either category. This means that some pupils need to travel through the entire three stories to reach the toilets, which causes tiredness, wastes time and contradicts the basic physiological needs outlined by Maslow. This also affects the pupil-teacher relationship, as well as the physical and psychological comfort of teachers, as explained earlier in Chapter Six.

It was noted in the ground floor plan figure (7-2) that the toilets were placed just next to the pupils' entrance, which gives negative approach to the school. Similarly, access to the administration room on the other floors is through a lobby that is joined with toilets. This may reflect what people outlined as psychological comfort. It also relates to hygiene, particularly with bad odours. Such an approach may have negative impression on staff, children and even visitors, hence having a negative impact on their sense of love and belonging to the place. This also affects privacy, and the ethical awareness of the children.

As for safety, one may refer to a number of actions undertaken to respond to safety issues, as well as others which failed to respond. In response to safety needs, credit is due to these schools in terms of the attention paid to corridor and staircase numbers and widths. In the 1992 earthquake large numbers of children's deaths and casualties resulted from panic due to an insufficient number of routes out of buildings. Although the GAEB booklet reports applying earthquake precautions to these designs, they do not comply with some of the principles outlined by Aiche (1987). For example, some plans are asymmetric, narrow and long, barely fulfilling the 2:3 ratio in the side elevations, and finally, the 1/3 opening-area looks to be just at the edge.

Sometimes more principal safety regards are ignored, such as the playground surface, which is either hard tiles which cause injuries, or large sandy areas raising dust that affects their health [see figure (7-9)]. Moreover, some schools were built just underneath high voltage power cables, as seen in figure (7-12).

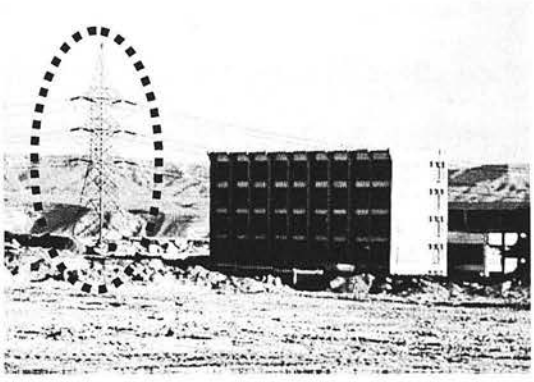


Figure (7-12). A school underneath a high voltage power tower and cables.

Overlooking quiet streets was seen as important for aspects of pupils' health, safety and concentration. It is known that high levels of traffic causes more pollution, more noise, and more dangers associated with traffic accidents. In many schools that such criterion were not taken into consideration, as seen in figure (7-13) below.

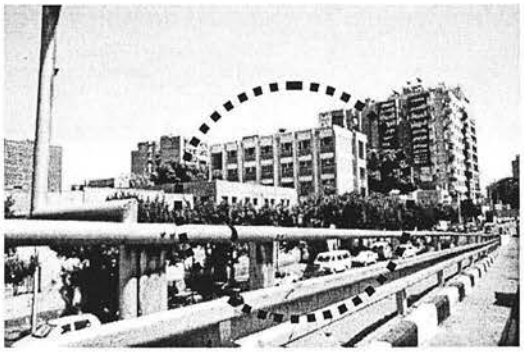


Figure (7-13) Schools overlooking high-traffic roads in contradiction with children's safety regards.

It was shown in the study of Höchi school complex how all windows and balconies looked out onto the piazza space in a spatial hierarchy from the relative privacy of the classrooms, to the public openness of the piazza, to enable different levels of social

interaction. There is a possibility that the studied schools could benefit from the semi-open corridors and semi-open staircases in applying the same hierarchy to foster such social interaction. Additionally, having the buildings assembled around the courtyard results in a spatial dynamic which could enable further pupils' social interaction to develop constant awareness of their relationship with their own class group and the wider school community. This is shown in figure (7-14) above.

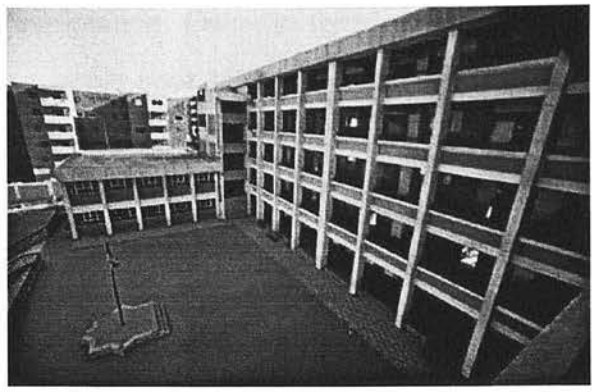


Figure (7-14) The spatial hierarchy from private to public, established by the semi-open corridors.

Analysing this scheme in terms of the 'environmental hostility' outlined by Reinecke (2000), one may address undertaking such modernist design to create a sense of hostility. The physical and symbolic attributes of these places are cognitively unknown, hence preventing people's feeling of intimacy with the place they live in. Under such settings, the aesthetic sensibilities a pupil acquires are acquired uncertainly, because they are from a culture to which he has no direct access, while the aesthetic sensibilities of the culture to which he belongs are not studied.

Another example of such environmental hostility can be seen in the three administration rooms above the kindergarten in 'Model 29'. The third room should have been extended to the boundaries of the supplementary service room, rather than leaving a dead-ended unutilised corridor. This will eradicate the sense of mystery in the building. This is yet another potential source of environmental hostility.

Additionally, lack of diversity of experience and the sense of boredom generated by this plain monotonous design can be interpreted as hostile. And finally, the potential experiences offered by the semi-open corridors to improve social interaction corresponds to children's needs as discussed above, but also contain an opposite message due to inappropriate adult interference.

In terms of Kaplans' (1989) environmental preferences, these schools achieve a good level of 'coherence', in that they are easy to perceive with their obvious interrelation. The feeling of relative safety identifying 'legibility' is questionable with the five-story buildings and semi-open corridors and staircases. Additionally, the straight corridors do

not give a sense of gradual unfolding and exploration. One can take in the buildings components at a glance, which gives these schools poor rating in terms of 'mystery'. And finally, the degree of 'complexity' is also low. Complexity is about challenge, whereas the mono-functional spaces of the studied schools allow little or no possibility for challenge, imaginary interpretation, or individual creativity.

The modular assemblies that characterise this project sometimes produce big schools. It also promotes use of the so-called 'school complex', which is a single site comprising two or three stage schools, as seen in figure (7-15). School size can strongly affect the level of children's coherence to their learning environment. In his study of Greek schools, Papageorgiu-Sefertzi found that pupils' socio-spatial schemata were significantly affected by the school size. Pupils from small schools had clearer images of their school's physical environment and had more favourable attitudes towards school life. The same study adds that their sense of orientation and ease in moving about the school building inversely correlated with school size. Pupils from small schools acquired a greater sense of belonging and a deeper interest in school matters, while more frequent feelings of loneliness, alienation and uneasy adjustment tended to characterise larger school complexes, particularly with younger age-groups. Children from little schools are at an advantage where the easiness of social interaction and making friends is concerned.

Figure (7-15) Example of a school complex, showing the large scale and high building density (GAEB, 1995).

It is a prime concern of an 'active' school design to encourage unconscious learning. Mogren (1992) suggested that unconscious learning can be amplified by placing wall and floor murals produced by local artists, to make pupils unconsciously learn about local art and artists. The same applies to photographs, articles, and

Figure (7-16) Examples of simple decorations fostering unconscious learning.

diagrams. Only a few of the studied schools applied this, and in a relatively primitive way, as seen in figure (7-16).

Distance from nearby buildings was confirmed by people in the survey of chapter six to be important for privacy, concentration, natural illumination and ventilation. Pictures in figure (7-17) below show an example of a school being extremely close to neighbouring residential buildings, and violating such mutual privacy.

Figure (7-17) Two shots of an 'L-shaped' school, showing how close to the residential building it is, especially to the mass perpendicular to the street (highlighted by arrow).

7.4 Conclusion

The above discussion was intended to show the application of the endogenous approach to education in Egypt. The studied schools had some features which support the endogenous approach, and some others which are against it. However, it is important to remember that **these criteria are not to be applied in isolation from the main broad objective of development**. They should not be sought as objectives, but rather as criteria that have implications for the state of development, as clarified earlier by the study.

The following part concludes the thesis. It integrates the results of the fieldwork with the theoretical findings of the study to identify favourable conditions for education, and establishes recommendations for the content and planning of the educational environment towards the promotion of endogenous development in Egypt.

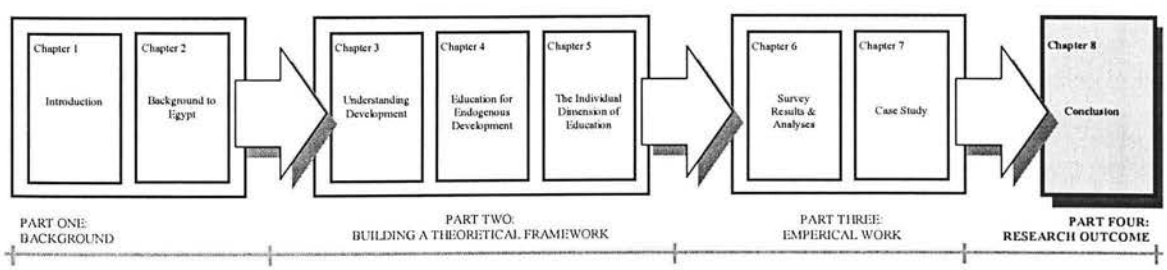
PART FOUR ...

RESEARCH OUTCOME

PART FOUR

RESEARCH OUTCOME

This part combines the theoretical work with the empirical findings, in order to distil the principal message of the research. The 'Conclusion' introduced in Chapter Eight summarises the final outcome of the research at the state, local community and individual levels. It then forwards a list of recommendations and further study areas.



Chapter Eight

Conclusion

Chapter Eight

Conclusion

A major postulate of this research is that education is a subordinate component in the larger system of societies' development. This means that any educational policy should stem from a long-term strategy to support this aim. The present study examined a number of universal theories of developmental against the history of development in Egypt. In analysing these models it was concluded that the endogenous approach is the most appropriate to the Egyptian context. Theories of education were studied to provide an educational strategy that fits with this approach. This was the 'indigenous community-based education'. Further support is provided through addressing learning processes and human needs, particularly with reference to primary schoolchildren. To confirm the relevance of these theories to the Egyptian context, feedback was obtained through the use of a field survey and case study.

This chapter integrates the results of the fieldwork with the theoretical aspects of the study to distil the main messages of the thesis and identify favourable conditions for education. It introduces the main findings. Afterwards, a list of recommendations is provided. Further research areas are then suggested to support this concept within the Egyptian context.

8.1 Egypt

In the second chapter of this thesis a general description of Egypt including its resources and population characteristics were analytically and statistically presented. This discussion clarified how education evolved within the Egyptian community, and how it affected and was affected by the social, political and economical changes, through

different historical eras. The current situation was also discussed, including the latest developments and programs adopted.

Egypt's location attracted many empires to invade it, bringing with them their many different cultures. In spite of this, Egypt has survived and has demonstrated a unique capability to sustain and evolve its traditional culture while blending with these different cultures, having selectively assimilated the incoming elements into its context.
Egyptian socio-cultural considerations are products of strongly held religious beliefs, by both Muslims and Christians, which act as a source of spiritual force that maintains the uniqueness of the Egyptian character, with its significant impact on cultural codes, behavioural values, norms, beliefs and attitudes. Their religious psychology is more a means for social interaction than one of ritualistic character.

Since the Fatemid rule in Egypt, education has been used to support particular political agendas. This continued during the Ayyubid, Mamluk, and Ottoman rules. The Ottomans intentionally limited the Arabic education to bond Egypt culturally to Istanbul. Such political agendas of education were also seen under the British colonisation, at the time of World War II. The revolution of 1952 used free education as one of its most influential plans to build popularity amongst the people.

Having been shaped in a socialist model just after the 1952 revolution, and experiencing the heavy burdens of four consecutive wars, the Egyptian economy has suffered badly, this being reflected in the standards of services provided.

It appeared from the previous study that most of the consecutive ruling regimes failed to adopt an educational policy that stemmed from any long-term development plan. This resulted in having many conflicting and transient paradigms in different eras. Such fluctuation, expressed through radical variation in educational direction in different eras, explicitly calls for an educational strategy that stems form a long-term policy towards the promotion of a desirable level and direction of development in the country.

There is a serious demand for the provision of further schools to overcome current problems of overpopulation, multiple shifts, classroom densities, dropout rates, and replacing old buildings and those destroyed by the 1992 earthquake. Plans have been developed to build these schools with some already in progress.

Cairo has the highest population in Egypt with 11.5% of the overall population, at a population density of 31,697 persons/km^2. Cairo comprises seven educational provinces, managing 3188 schools, out of which 1181 are primary, accommodating 754,048 students. Being the capital city, Cairo generally receives a greater share of developmental projects. 23.57% of Egypt's overall investments are dedicated to Cairo. It is planned to build 578 schools in Cairo during the period 2002 - 2007, 36 of which are already under construction. From the above facts, Cairo can be considered to be an excellent example and source of information regarding school failures and successes, hence the outcome would benefit larger population.

8.2 The State

It was found in Chapter Three that the development of a person or a society is not a condition defined by what or how much that person or society has. Development is more to do with what it can do with whatever it has. Because development involves an increase in ability, and because one person or society cannot be motivated for another, one person or society cannot develop another, one can only encourage and facilitate the development of another. Therefore governments cannot develop the governed, but they can encourage and facilitate their development, i.e. facilitating solutions for the citizens to undertake.

The bottom-up approach alone is not an adequate solution for development, neither is the top-down. In the pursuit of development, this apparent conflict can be used to identify an appropriate level of intervention, with reference to both the potential for the local contributions, and the demand for global co-ordination.

Growth is to be interpreted as a means to promote development and wellbeing rather than an end on its own. The problem with modernisation is that it considered development to be virtually equivalent to economic growth. Social, cultural and religious values were sometimes largely ignored, being considered as irrelevant or even as obstacles to the process of development. Consequently religious authority weakened and conduct partly broke loose from any kind of moral control, partly discovering a new obligation to the state. This made people become more critical of unethical attitudes towards the community and more likely to judge private morality.

Modernisation is accompanied by other stresses involving conflicts in developing countries. This can result in wars, civil unrest, ethnic violence, and political repression. There is also a strong association between modernisation and ecological problems, including the loss of tropical rainforests, desertification, and the high cost of energy consumption in modern technologies.

Modernist schools are concerned with imposing discipline and control. This faces children with the hazard of being moulded through education to be factory fodders, neutralising the potential for the development of creativity and freedom of expression. As such, the school was viewed as a kind of factory for the receipt of knowledge. The pupil enters the system at one end, follows a prescribed course, and emerges with a degree at the other. This view is negated because manufacturing is a means to an end, while development is an end in itself. On the other hand, there is no one point or stage of development at which one can say "the process is now complete; nothing remains to be done", there is no such hypothetical end-product as in manufacturing.

The theory of dependency assumes the underdevelopment of a country to be the direct result of another's development, following exploitation of its resources, i.e. development and underdevelopment are two interdependent phenomena. There is a danger that the economic dependency becomes cultural, then educational. This becomes worse in school when the curricula, examples, exams and assessments are driven by imported settings, placing cultural dependency at even earlier educational stages. This leads to dichotomisation of cultural perception, where the image of 'progress' is borrowed from elsewhere. This poses a challenge for designers, sociologists and philosophers to articulate a vision of the future which is culturally authentic and yet incorporates all of the progressive elements that societies in transition rightly aspire to.

Another version of dependency is the conditions and 'structural adjustment policies' imposed by donor counties and international aid bodies. These policies often extend to the internal arrangements of the poorer countries. Writers and policy-makers within the WB officially acknowledge that previously employed structural adjustment policies had negative social and cultural consequences.

Transitional state theory principally addresses countries experiencing the transition from monarchy, colonialism, capitalism or other systems towards a new socialist program. Such socialist programs are associated with limited opportunity for public participation, with leaders taking over in the absence of institutional legitimacy.

Under this model, education suppresses critical analysis and becomes more descriptive, so that the population is less participative and less threatening to those in power. Thus education ends up as a functional tool for economic growth, rather than a political foundation for social transformation and development.

The implications of the market place model appear in the domination of economic and materialistic values, reliance on foreign traditions, a tendency towards internationalisation, weakening local identity and culture, reliance on alien imported models, growth of richer nations with further marginalisation and powerlessness of the poorer ones, and the undermining of desires for self-reliance and independence.
With reference to the educational influences of this model, there is no overwhelming conclusion regarding the cost-effectiveness advantages of private schools over public ones, neither the contrary applies. School privatisation is an area that still needs further research in order to draw any firm conclusions regarding its effectiveness.

Sustainability is a very broad multidisciplinary notion, and almost any group can find their own interest somewhere within sustainable development. Therefore, it is hard to be against it in general. This makes it possible for competing groups to use it towards different or even contradictory ends, such as the conflict between 'individual versus collective interests', 'intergenerational versus intragenerational equity' and 'adaptability versus resistance'. In other words, it is accused of lacking a clear framework for co-ordinating the interaction between such huge heterogeneous attendant disciplines and interest groups [e.g. political, social, ecological, commercial ... etc]. This has resulted in many disagreements, for example population control contradicts some religious ideals, and fossil fuel use rationalisation policies are against the commercial interests of oil producing nations. The objectification of sustainability goals does not necessarily lead to better results, it may only lead to things becoming meaningless.

The previous discussion of developmental paradigms illustrated their limitations. The model recommended for use in Egypt is endogenous development. This model is considered to be capable of dealing with the shortcomings of the previous models.
Endogenous development is a development strategy, which is based on regional necessities, locally available resources and activation of indigenous potentials. An essential element of the strategy is the broad participation of the local population in the initiating, planning, implementing and monitoring of the process of development.

Endogenous development is suggested to be a progress through which concern is given to innate knowledge, and the internal potential powers of the people (Islami, 1998). Thus, the two basic pillars of such development are first, indigenous resources and knowledge; and second, public participation.

Indigenous Knowledge is the systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments, and an intimate understanding of the environment in a given culture. Local values, experiences, activities, techniques and even materials are all included under indigenous resources and knowledge, the suggested base for launching endogenous development.

Indigenous knowledge serves as a springboard for technological development, dynamic rather than static, holistic and culturally bound, oral, experiential, and highly accessible, although not documented.

The belief system, politics, economics and the kinship pattern in each society are interdependent, and all function together as a whole. In any society, if change starts with an inner dynamic, the whole modifies itself in all its aspects and becomes a new structure. The problem comes if change begins as a result of external dynamics.

Indigenous knowledge systems are not inferior to global systems, they are just sometimes unavailable because they were undocumented. Indigenous knowledge is relevant to all human activities as it promotes the full and active participation of local people in all consequences of their own affairs. IK is capable of being integrated into modern sciences. Local knowledge is also tested, accepted and found easily adaptable to its own people's needs.

Indigenous groups prove to be constantly experimenting and changing in response to the imperative exogenous factors of the marketplace. Local peoples continually test and evaluate new production and management techniques [e.g. farmers, fishermen ... etc.], adding those found beneficial and discarding ones that are no longer useful to their context.

Thus, we have to maintain our links with historic heritage, yet not deny ourselves those contributions which modern technology can make to improve the quality of people's lives.

An active role for people in the process of development is paramount, and it is rare these days to find a document on development which does not refer to participation. Public participation in decision-making is crucial since consultation usually reveals the

conflicts between different interest groups. Thus, by working together people learn from each other. The UNEP report of 1999 confirms public involvement, voluntary action and NGO participation to be strengthened in almost all countries [including Egypt], although still relatively slow.

Participation should aim to enable the use of cultural resources, values, symbolic principles and people's innate knowledge to help societies' transformation and development. The strength of indigenous groups rests on kinship bonds and the way these groups jointly conduct their political, economic and religious affairs.

Individualistic culture presents a number of separate fields of thought and action, each acts unto itself under its own norms, with no cultural unity in which the parts find their place and meaning. In the absence of real sharing, there is no longer any embracing view of life. Social values are actually what shapes and permits the applicability of individual preferences. The absolute freeing of individuals does not necessarily mean growth in desirable directions but might involve destructive set backs to the whole community. Society is neither a mere sum of individuals nor is it a super-ego, but it is a complex of relationships of a kind to which the term 'personal' is appropriate as indicating both the rational and moral nature of the association and the fact that full human life is possible only in community. A human being cannot come to his full personal stature in isolation. Higher man activities like moral conduct are meaningless apart from relations with other persons. In the ultimate sense, development is a reflection of personal values conditioned by the social framework in which one lives.

Participation should not be limited to a specific discipline [e.g. politics] with a certain objective [e.g. decentralisation of power]. It should not remain limited to lofty political ideologies. It must emerge from the people at grassroots. The endogenous model requires an interactivist attitude to development, with a greater tendency towards a bottom-up approach. Implementation should start at the level of the institutions [e.g. schools, farms, workplaces, clinics ... etc.], where groups are more likely to share common concepts of 'the good'. Small, self-governing units should be the source of authority and responsibility, and they should determine the use and allocation of resources.

8.3 The Local Community

Chapter Four outlined that culture is what we think of our civilisation. Culture has to interpret the civilisation that exists and not one that has ceased to exist or never existed.

Education should respond to social and cultural transformation, being a cultural instrument that ought to conserve, transmit and renew culture. 'Civilisation', 'culture' and 'education' are connected in such a way that none can be healthy unless all three are in proper relation to one another. The essential principle for the selection of material and curricula must be relevance, rather than contemporariety. Knowledge is dead unless it is instrumental in interpreting the world of active experience, and our place in it.
If a vision of education can be developed that celebrates spirituality, diversity, service and respect, then every teacher and administrator in indigenous schools will have an alternative yardstick against which they measure their practice and their objectives. This is no less than a process of cultural negotiation, a building of cycles of community, within the context of nation, continent, and globe.

There is a difference between what 'community' and 'society' means. Community is ruled by natural will, by the acceptance and unconscious evolutionary transformation of the inherited mode of thought and perception of the forefathers. Society is the product of rational will, in which thinking has gained predominance and come to be the directing agent. All individuals act according to both types in varying degrees, they are both found interwoven in all kinds of human associations.
Community consists of connections between expressed thought and lived experience, being a dynamic cyclical relationship. It is a definition focused neither on kinship, nor on place, nor on mind, but on the relationships that they exemplify.
Education has a crucial role to play in fostering the process of community imagination, a corner stone in any community development. There is evidence from Egyptian history that the pattern of '*Gemeinschaft* of kinship' existed until the introduction of 'modernisation', which shifted the interest towards 'state' and 'society' rather than 'community'. This shift can be seen as trying to promote '*Gemeinschaft* of mind', which when unsuccessful remains only at the level of '*Gemeinschaft* of locality'. The role of education and media should be directed towards promoting '*Gemeinschaft* of kinship' which is already a living component under the surface of Egyptian culture.

Communities should apply only 'appropriate technologies' in development programs, which concentrate on providing modifications to existing traditional technology.
Laying emphasis on indigenous education must not be interpreted as purely local and closed. Balance should be maintained between an awareness of different evolving cultures as a rich source of assimilating knowledge within an indigenous culture, and

the upholding with indigenisation that could reach cultural isolation and ban people from exchanging benefits and experiences with other cultures. Native educators, teachers, administrators and curriculum developers should attempt to benefit from non-native models to generate the creativity that is necessary for the development of native education.

Ecology always lies in the background of culture. Nature is a carrier of both objective and subjective values. This makes culture and nature strongly related. Thus, return to nature should not be interpreted as a passive action or a call for backwardness. All human acts are shifts in natural things. There is nothing unnatural about computers or rockets for example; they are assemblages of natural things operating under natural laws. All that is required is directed labouring and conscious shifts causing minimal harm.

The decline of local cultures and languages is associated with the domination of non-local ones. This started with colonisation then continued through nation-sate governments controlling and directing mass education, and imposing their specific linguistic, cultural and educational values and practices as dominant groups, towards a more political nationalism. The difficulty is the integration of social cohesion, while recognising and incorporating ethnic, linguistic and cultural diversity within the nation state. This phenomenon can be depicted as centripetal and centrifugal tendencies.

The difficulty with non-indigenous models is that students are expected to master material that is often irrelevant and unfamiliar to them and their parents, in a language that they did not speak at home and learned only when they came to school, and in a style that often was at odd with their conventions.

The effectiveness of classroom instruction is severely reduced due to cultural and linguistic differences between teachers and the children, as well as by discontinuity between native home environment and school. Another difficulty associated with non-native teachers is the difference in cultural expectations, in regard to listening behaviour and indicators of attention, which surface as differences in perspectives, expectations, understandings and interpretations.

The challenge is to design, implement, supervise and adequately fund systems that meet educational needs without discarding traditional education, and knowledge useful for subsistence, cultural vigour and self-confidence.

The expansion of the school into the outer world and the penetration of the outer world into the school are complementary processes. Both are necessary to the achievement of reality and effectiveness in education. Knowledge should be seen as a living thing which people build together. Local communities grow in self-respect and acquire genuine political influence at the same time as they take greater responsibility for their schools.

Dewey favours viewing the school as a microcosm. The school which is insulated from the world cannot faithfully present an image of the world, and therefore cannot satisfy this approach proposed by Dewey. The connection between the school and the life of the rest of the community is never so convincing as when work done in the school is of direct value to the community.

Having the family as a basic unit of the community, parents have a crucial role to play in their children's education. This role should be balanced, neither oppressive nor spoiling, nor even ignoring.

Children's participation is not only important to producing a product that is more suitable for the users, it is also important in terms of developing a child's sense of belonging, responsibility, intellectual promotion and self-respect. It is recommended that 'child initiated, shared decision with adults' be the adopted level, in terms of Hart's model, which is child-designed but involving adults in key roles to realise the objective.

Relationships inside the school are the first step towards whole community interrelations. This should be catered for in terms of the curriculum, pedagogy, testing, assessment, management, and school design. Providing internal and external gathering spaces should foster this.

Participation should be extended to school-building design, construction, use, maintenance, conservation and renovation. This includes teachers, pupils, administrators, and all community members.

School-shift multiplicity is a current problem in Egypt. In addition to its influence on the amount of knowledge individual pupils attain, it is against the community coherence as depicted by the endogenous model. If children are allowed such a limited time in school, they are unlikely to create coherent relationship with colleagues, teachers and environment. They are also unlikely to have time for undertaking any other learning

activities rather than the formal in-class teaching. When the school premise is occupied until late, a number of community activities may not be possible. The elimination of multiple shifts should foster better community participation and coherence.
Everybody in the community has a role to fulfil towards the school. This includes the community-based sector, political partners, corporate sector, education unions and syndicates, non-profit foundations, and all organisations and individuals, as discussed under the civic capacity approach.

Local communities should have the ability to direct their cultural and educational practices on their own terms, rather than the terms set by others. When schools become organic to their local indigenous communities, such communities are able to insist on the insertion of their own values into the school's organisation, management, pedagogy, curriculum, and modes of evaluation.

The reason for the limited success of reformist approaches lies in the fundamental incompatibility between the culture of formal schooling, and the project of developing an organic dynamic relationship with local forms of life. It is a question of achieving the proper balance between native and non-native content among and within individuals associated with education. It is recommended that schooling in indigenous communities should follow the reformist model under inter-activist attitude that allows further recognition of the significance of imagination as discussed above.

Indigenous schools do not directly reflect either formal education ideal or local community, but should be dealt with as new cultural creations. A school becomes a forum for negotiation among surrounding cultures, between itself and the community, and the personal negotiation of students with their cultural worlds, including the school culture.

We should be aware that there are potential limits to such initiatives. However, while uncritical of the limits of and potential weaknesses of such programmes, we shall be committed to their promotion and extension.
After all, it is clear that education, while important, is not the complete answer. That does not mean that education does not have an important part to play - particularly if it involves indigenous communities directly in the provision and management of education.

Education alone cannot compensate for society. Thus, the development of local education needs to be situated clearly within the much wider social, economic and political framework.

The discussed cases demonstrate that much can be accomplished by small groups with great commitment. The challenge is how to expand these efforts to wider contexts and higher levels.

8.4 The Individual Dimensions

Different theories of human needs discussed in Chapter Five are not to be seen as contradictory. They all provide complementary views to understanding. We must not separate different hierarchies. Cognitive needs are not separate from basic needs. The two hierarchies are interrelated rather than dichotomised. Any danger to cognitive needs, any deprivation or blocking of their free use, must also be threatening to the basic needs themselves.

Piaget claimed that logical reasoning begins to take shape at the age of ten to eleven. Where Janov & Holden pinpointed that the age of seven to fourteen witnesses the most intensive development. This is thinking, abstraction, speech, symbolism, logic conclusion and similar intellectual processes. Elkind identified the operational stage of learning to span between seven [or eight] and twelve years of age, coinciding with the primary schooling age. This stage of human life witnesses extremely crucial development. If appropriate education was thoughtfully provided at this stage children are likely to realise their genuine potentials. This has led the present research being confined to the study of primary schooling.

Piaget, Janov and Holden, Elkind, and Maslow have all emphasised the significance of music, movement subjects, and free play and interaction with the environment for conscious and unconscious learning. This achieves better reciprocal dependency, social interaction, and is conducted in an enjoyable atmosphere.

In relation to endogenous development, the application of Piaget's two play-types using local vocabulary, stemming from the child's local environment is favoured, rather than creating false environments and fake games that belong to different backgrounds and cultures. Reinecke (2000) adds that 'play' has direct implications for

the ability of a child to exercise responsibility for their environment and understand the meaning behind their actions.

The findings of experiential education, active learning and humanistic education show a strong tendency towards locality, participation and active social and environmental interaction to regain connection with the local environment. They confirm that increased interaction with the environment considerably enriches the child's vocabulary of symbols and examples, which they will use in the future. If this interaction was genuinely in harmony with the child's natural indigenous environment [that is not artificial], their experiences will emerge from genuine local vocabulary and backgrounds. Hence, the child will be able to generate solutions that are more relevant to his environment in the future. This is very important for development, particularly in the endogenous sense.

Additionally, integration with natural environment could act as a source for knowledge as well as cultural, moral, religious, symbolic, utilitarian, aesthetic, and life values.

Maslow's view about learning to learn is supportive of endogenous development, as well as of self-actualisation. Self-actualised people protect and love their values, and if these values are threatened they will be aroused to action and sacrifice. This attachment to local values experienced through self-actualisation is supportive of endogenous development, where individual attitudes and values are formed through social relations.

The open plan system responds to both principles of active learning and humanistic education. Rintoul and Thorne (1975) reported better achievement with children who have been used to this kind of learning from their earliest years in school. Older children coming to this kind of environment for the first time may behave badly. Therefore, this kind of education must not be suddenly introduced to schoolchildren overnight, it should be implemented as part of a long-term plan for change.

A school environment should regard the variables outlined by Kaplan, and avoid being hostile to children. Dudek (2000) pinpoints a worthwhile design principle for primary schools. There is a difference in the physical and psychological make-up of primary school children at the beginning [5-6 years] and end [11-12 years] of the stage, which necessitates differences in treating each.

8.5 Empirical Findings

Chapter Six introduced the survey results and analyses. This showed the theoretical framework forwarded in Part Two of the thesis to be strongly grounded in people's perceptions and attitudes to schools in Egypt.

Endogenous development is a holistic concept, which responds to individual and societal dimensions, subjective and objective. The following discussion briefly introduces examples of the variables people raised, to show how they relate to the endogenous model.

Hygiene, for example, is important in Maslow's humanistic education as it pays special recognition to basic needs.

Spaciousness is one aspect that supports the endogenous theme at a number of levels. First at the individual level, it responds to physiological hygiene, safety, aesthetic and relatedness needs. The last can be seen as a source of societal cohesion, crucial for the endogenous development. Such cohesion fosters participation, and collective effort towards the improvement of particular groups of people who share common local grounds. From another perspective, it has a utilitarian function, to provide further possibilities of including more elements to support better education. This is a major component of development. Reference in this context is made to Fadaka (1982) suggesting that education is subordinate to social needs and development.

It was stated in Chapter Five that both Elkind's 'active learning' and Maslow's 'humanistic education' are supportive of endogenous development. Both these models emphasise the necessity of school activities and movement subjects. These subjects also respond to personal needs, for example sport is a physiological necessity, music and art are ways of self expression and self actualisation, as well as responses to aesthetic needs. Collective work fosters co-operation, belonging and relatedness, all of which promote the endogenous sense at the level of the school, and subsequently at the societal level.

In addition to their role in play, important for active learning, playgrounds are also perceived as spaces for social interaction that relates to the Egyptian culture. This provides greater significance within the context of endogenous development through the use of local cultural elements in promoting further social interaction and participation.

An essential component of development from the Egyptian perspective is integration of the school with the local community. Two-way contact can take place through extending the school facilities and services to the local community. The school can also benefit through improved access to surrounding facilities and environment. In this case, society will be more connected to the school, and will consequently be more influential in responding to its developmental needs. Education can never be fully and properly related to the life of the community until the whole community takes its share in the work of education. Respondents confirmed that the expansion of the school into the outer world and the penetration of the outer world into the school are complementary processes, which are both necessary to the achievement of reality and effectiveness in education.

Respondents highlighted the importance of ethical values being transmitted to their children by schools. In relation to the main context of this thesis, Ospina (1999) suggested that education should also be seen as a means to bring about changes in behaviour and lifestyle, to disseminate knowledge and develop skills, and prepare the public to support changes towards development in all sectors of life. This raises personality formation within locally agreed codes from an individual aspect to a societal demand, as a principle for endogenous development.

In addition to the role of the school administration in managing the schools affairs, it has a special role in the contact between school and the local community. In regard to this Corson (1999) confirms the significance of management's determined willingness to share leadership with the community, which is a pillar to endogenous development. The relations of schoolchildren, parents and the staff is heavily dependent upon performance of the school-administration.

Gardens have a utilitarian role in improving air quality, which has a direct influence in the occupants' physiological well-being. It also adds an aesthetic touch to the school environment, which responds to human aesthetic needs and psychological comfort. It provides a good environment for active learning activities such as gardening. It is a good environment from which to derive taught subjects through local context. It is also a powerful way to relate children to nature. It is a great place for the school population to meet, gather and socialise, in accordance with the Egyptian inherited culture of

appreciating such places. Such socialisation reflects on personal feelings of belonging to the school and community in general. Gardens also provide a good medium for challenge, exploration, creativity and personality development.

The above were examples of how people's responses related to the context of endogenous development. To sum up these findings, one may say that the endogenous approach is holistic, and deals with individual and societal needs equally. Although it is not easy to draw a sharp distinction between what is personal and what is societal, the following discussion tries to sum up the findings under a similar grouping using Maslow's hierarchy of human needs, the relevance of which to the endogenous model was outlined earlier.

From an individual point of view, physiological needs were outlined in many instances, like hygiene, health, physical comfort, quiet, and the influence of overcrowding. These were affected by the degree of spaciousness, orientation, building height, provision of playgrounds, courtyards, gardens and toilets, and the opportunity to practise school activities. Some of the facilities had a direct influence to this notion, like the condition of furniture and sporting equipment, and easily visible blackboards. School site is relevant to this too, it should be close to home so that the daily journey would not be physically tiring, and should be far from sources of noise and pollution for the health, comfort and well-being.

Safety was mentioned as an independent variable. It was associated with reasonable spaciousness, low overcrowding, suitable building heights, recognising age difference in classroom allocation, soft playground flooring and building materials, attention to earthquake design precautions, well-maintained school-buildings, providing a school-clinic, wide corridors and staircases, and multiple exits. Schools should be away from busy roads, railways, and canals, with provision for safe crossing points. Schools should also be close to home for added security.

Responding to the need to know and learn is one of the primary functions of the school. Such a need is important for the individual and the society in general. People suggested employing contemporary and appealing pedagogies which are driven by qualified teachers through local context and allowing opportunities for participation. The vocabulary outlined under 'active learning' and 'humanistic education' was all

highlighted within this context. People talked about practising school activities, play learning and movement subjects. Provision of libraries, modern laboratories, computers and facilities was seen as important for this. Playgrounds and activity rooms have an obvious role in this regard. Physical and psychological comfort as well as the degree of quiet and overcrowding affect learning and attainment.

Aesthetic needs were amongst the most influential components of personality development. It is mostly associated with nature, gardens, open spaces, building design, decoration and materials. People also related this to low levels of overcrowding, spaciousness, and bright colours. Some activities, such as art and music, contribute to fulfilling this need. Responding to these needs was seen as a source of psychological comfort, which has positive reflections on overall educational achievement and school-party interrelations. The aesthetic settings extended beyond the school limits to include the site and surroundings, including the influence of surrounding fields, opposed to that of factories, highways, cemeteries, and slaughterhouses.

When we speak about the need to belonging and love, this simultaneously implies a societal and an individual need. It responds to a personal demand, and maintains a socially coherent community. Many issues could reflect on this, for example the relationships within the school, degree of participation, the pedagogy if undertaking collective activities and active experiences, building condition that expresses respect and fosters belonging, physical and non-physical integration with the local community, curricula that promote the local values and propagate for local domains. All these influence the sense of love and belonging to the school, and reflect to the overall sense of belonging and love to the local community, whether a village, a district, or even a whole country. Open spaces, gardens, playground are all spaces which foster socialisation and improve such interrelations. Discipline and stable personalities affect this too. Physical and psychological comfort are important to improve this sense amongst the school and the community.

It is now shown how the different notions addressed respond to endogenous development. They relate to futurity and development, respond to locality and reflect on participation.

In Chapter Seven, a case study was employed to show the application of the endogenous approach to education in Egypt. The studied schools had some features which support the endogenous approach, and some others which are against it. However, it is important to remember that **these criteria are not to be applied in isolation from the main broad objective of development**. They should not be sought as objectives, but rather as criteria that have implications for the state of development, as clarified earlier by the study.

8.6 Recommendations

From earlier sections in the thesis, the following list of recommendations could be developed to promote a pattern of education that would support endogenous development in Egypt.

8.6.1 At the State Level

- It is important that growth be looked at as a step towards development, rather than an end goal on its own.
- It is suggested that public participation should be promoted, and that a bottom-up approach should be run in co-ordination with the top-down practices currently in operation.
- An interactivist attitude is to be promoted, and people with such attitudes should be placed at the top of state systems and bodies.
- Indigenous applications and traditional values are to be promoted and encouraged.
- Social, economic and political development is to reduce its dependence on external structures to grow self-reliance and self-sufficiency.
- The mediation of local socio-economic difficulties through education is necessary.
- Philosophy of education is to shift from the homogeneity of one dominant culture, towards more liberating approaches, programs, methods, goals and structures to incorporate and promote local cultures.
- School should be available locally not involving long travel, so that access to formal schooling is easier, and contact with traditional education remains possible.
- Local educational authorities should be encouraged to stop school-shift multiplicity by all possible means.
- Teaching modern and up-to-date relevant curriculum, within the national guidelines set by the state, should not force the choice of a certain culture over another, but a provision for a distinctly local educational environment. Education should continue

to be principally conducted in the local language, with provision for adequate training on other languages.

- Television programmes can effectively promote people's willingness to learn local languages if provided.

8.6.2 At the Local Level

- Local culture is to be dealt with as an expression of the current civilisation, not ones that exist elsewhere, or ceased to exist.
- Curriculum content is to recognise the local culture, as well as its significance to improve and develop the local environment.
- The creation of new career opportunities where local language is a requirement can promote further desire for local language acquisition.
- Emphasising the strength of kinship community bonds, instead of the current situation where the societies are mostly bound by physical co-existence.
- Communities are to adopt the technologies which relate to and evolve from their local context not ones that have evolved elsewhere, to allow the preservation and development of the local culture.
- Balance is required between an awareness of the potential of evolving cultural identities by assimilation, and cultural isolation that bans people from exchanging benefits and experiences with other cultures.
- It is important for communities as well as individuals to be involved in further contact with nature, to sustain and evolve their moral, religious, symbolic, and cultural values.
- Local communities should control and develop their own education in accordance with their cultures, possessing a greater autonomy over key decision-making in schooling administration, curriculum, pedagogy ... etc. rather than adhering to the state pluralist culture.
- Teachers' recruitment policy is to be in accordance with their original roots, rather than the bases of efficiency. This proved to have strong influence on pupil / teacher communications. Thus, schools should employ local personnel, providing them with adequate training, back-up and supervision.
- Community should be seen as a resource that is inclusionary rather than exclusionary.
- Community involvement is to take place in all phases of planning and implementation.

- Two-way contact between school and community shall take place through extending the school facilities and services to the local community and inviting community activities in the school, as well as expanding the school benefit from the surrounding facilities and environment, both physically and symbolically.
- Multiple shifts should be avoided, to provide more time for promoting better community participation and interrelations at different levels.
- Local political leadership and school management should have the determined willingness to promote links between staff and community. This may come from administrative support, funding and on-going training for staff and community to strengthen such partnership.
- All local community bodies have to fulfil their role towards school. This includes community organisations and advocacy groups, politicians, local businesses, education unions, and NGO's.
- In Stairs' terms, 'contextual' breadth of involved community structures is to be extended.
- Promoting further parental involvement in schools, and two-way communication between home and school.
- Fostering children's participation in different aspects of their school and community.
- Maintaining strong ties among the school-community and developing a sense of mutual dependence and shared interests amongst them.
- Collegial and collaborative relations among staff and parents shall be promoted.
- Schools should employ culturally-preferred forms of pedagogy, like peer tutoring and collaborative teaching, parallel with general schooling methods.
- School organisation is to be more bottom-up, informal, process-based, locality-centred, community-based, internal and proactive; rather than top-down, formal, programmed, institution-centred, external and reactive - to promote better staff interrelations.

8.6.3 At the Individual Level

- It is important to undertake pedagogies that promote playing, unconscious learning, and movement subjects, which have significant importance for children learning and cognitive development, rather than being though of as luxury as with the current state.
- Further contact with nature is extremely crucial for a sound up-bringing and for cognitive development.

- School grounds should include a diversity of experiences. This includes different natural habitats and various play equipment allowing creativity and multiple layers of understanding.
- Education should not monopolise pupils' time, but relate to traditional practices and cultures.
- Education should focus more on thought and creativity, than on behaviour and discipline. It should encourage the theme of 'learning to learn and choose' as a step towards self-discovery and self-actualisation.

8.6.4 Design Recommendations

a. Design standardisation:

- Standardisation of architectural styles leads to the loss of cultural characteristics and authenticity in design concepts of the built environment.
- Designers are to utilise all their design abilities and creative faculties towards developing designs that stem from local contexts.
- A school building should be an expression of the culture, inspired by the architect and responding to the aspirations of those who will use it.
- Using local materials, preserving nature and designing the school building to comply with the natural settings of the site is important.
- School building should be at one with nature, and act as part of the site, not merely a structure placed upon the site.

b. Participation in design:

- Encouraging participation in school design by parents, children, school staff, community organisations, politicians, the business sector, educational syndicates, and non-profit foundations. This is towards the production of a more appealing product and to involve people in the process of learning and exchanging experiences.
- This participation is to take place in all stages of design, implementation, management and development proposal.

c. Responsiveness to local community and environment:

- The role of the school premises in providing a social focus requires the school to be a flexible and responsive structure, which is open to the society both functionally and symbolically.

- The expansion of the school into the outer world and the penetration of the outer world into the school are complementary processes, which are both necessary to the achievement of reality and effectiveness in education and development.
- In order to increase the effectiveness of a school, its physical resources and life should be extend to the wider community, running evening and weekend activities using school facilities as the venue.
- A coffee bar, recreation rooms, library and lounges may be included in the building, and parents and others are welcome to use them during and after the school day.
- Social encounters and association are emphasised by people mixing while they use different school facilities such as the public hall, the library, adult education spaces, and athletic and recreation clubs.
- It is additionally possible to emphasise local regeneration through the provision of a workshop for indigenous crafts.

d. In-school sociability:

- School architecture should promote sociability, to encourage an ultimate sense of group belonging.
- The assembly halls, internal streets and central promenade walkways play a significant role in getting people together, providing an informal social focus and generating a natural sense of community beyond the limitations of the class bases.
- Recognising the importance of spaces in between, designers are encouraged to organise classrooms around a central atrium or communal hall with open staircases and stepped terraces, which result to a spatial dynamic form enabling further pupils' social interaction to develop constant awareness of their relationship with their own class group and the wider school community, and to mediate between inside and outside, creating a more fluid welcoming effect.
- Open plans foster this process [more details in 'g. open plan classrooms' hereunder].
- Spatial hierarchy from the relative privacy to the publicness enables different levels of social interaction.
- Well-studied playgrounds and component organisation can be a crucial medium for social interaction.

e. Personal needs and environmental preferences:

- School-buildings should regard the aesthetic needs as part of the human cognitive needs outlined in Maslow's hierarchy.

- School height is to be reasonable, or schools should be provided with lifts so as not to affect pupils and teachers physiological needs.
- School designers should be aware of the environmental hostility and environmental preference variables, to ensure their designs are appealing to users and fulfil their role. The first includes familiarity, diversity and limiting adults' interference. The second refers to coherence, legibility, mystery and complexity.
- The use of local designs to allow children intimacy with the places they live in, when physical attributes are known to them and cognitively familiar.
- School size is not to be too big, not to affect children's socio-spatial schemata. This is to be considered with regard to producing 'school complexes'.
- It is important to create diversity of experience in the design to enable diverse experiences, and avoid the sense of boredom.
- Designers are to provide child-only spaces with minimal adult intervention, to help children develop their own identity, and become self-actualised.
- They should also adopt coherent easy to perceive designs.
- The most visually attractive elements are to be related to the purpose and use of the place.
- The legibility of a building can be fostered by the increased sense of relative safety.
- Providing some mystery and promises of new information gradually revealed throughout the building is one of the environmental preference parameters, as in the case of winding corridors, split levels, and seeing through bushes.
- It is favourable to avoid mono-functional spaces, not to kill children's creativity and imaginary abilities.
- Using abstract shapes promotes children's imaginary interpretation.

f. Gardens and playgrounds:

- Putting people in direct contact with nature is of significant benefit to individuals and societies. Nature is a source of disseminating knowledge as well as moral, religious, symbolic, aesthetic, and life values.
- School gardens should become a positive aid to child development, providing rich and diverse natural experience.
- Good and sufficient playgrounds are needed to cater for 'play learning'. They should be provided with equipment that allows children to adapt it, to make new meanings around it.

- The most successful play-equipment is that allows children to adapt it, to make new meanings around it, and change its form and use, either in the real sense or at least in their imagination. The greater the potential of the equipment or item to be changed or manipulated the better.

g. Open plan classrooms:

- Open plan classes have to be flexible to allow continual reorganisation.
- An open-plan classroom should accommodate different strategies of learning, which range from whole-class groups, through to smaller groups reading to each other or working together, to one-to-one sessions.
- In open plan schools, it is more important to provide designated areas for special teaching activities, such as quiet zones for reading and computer and storage spaces for materials, than to simply increase the general teaching area.

h. Progressive design:

- Architects are to produce designs that are culturally authentic and yet incorporate all the progressive elements that societies aspire to.
- School design is to reflect the spirit of change in progressive educational methods.

8.7 Further Research

The suggested approach requires further research across different areas. The following are few of these areas.

First, this approach could be developed into a more detailed and structured model, for application to Egyptian schools. It could also be developed to serve different sectors and activities towards the application of endogenous development in Egypt. The endogenous approach is a holistic concept that may be tested against other developmental themes in different countries and contexts. Means to convince and encourage people to undertake the endogenous approach need to be developed.

According to Denscombe (1998), qualitative analysis opens up the possibility of more than one explanation being valid, rather than a presumption that there must be one correct explanation, because it draws on the interpretive skills of the researcher. Thus, it is important that the findings and analysis of the questionnaire be looked at as opening ways for further studies.

The questionnaire findings could go through further statistical analyses, to possibly outline the driving forces behind its variables. Similarly, the association of certain variables with one another or with particular genders, age ranges, or social backgrounds could be a finding of such analyses. The variables outlined by this survey could be used to design other research specific to the study of certain contexts.

Developing a means of collaboration and co-ordination between architects and school users, who should take part in the design and implementation processes. These means need to be relevant to the Egyptian culture and context. Means of children's participation may also be studied in relation to different age groups, with particular reference to the Egyptian context.

The aesthetic perception of people has now significantly differed due to the pressures they have experienced under various political and socio-economic paradigms. This needs to be dealt with, and education is a prime arena for such notion. Additionally, possibilities to foster children's contact with nature in metropolitan Cairo need to be addressed.

Further research could be carried out into the influence of foreign words and expressions on people's perception of the environment, as well as the role of education in dealing with it.

8.8 Ending Statement

The central focus of this research was to explore the form that education should take in order to promote a desirable level and direction of development in Egypt. The thesis demonstrated that favourable conditions are more likely to be achieved within an endogenous framework. The study showed a current tendency towards preoccupation with growth at the expense of development in Egypt. The developmental paradigms undertaken in the past resulted in the current underdeveloped status. It is recommended that the endogenous approach be adopted, because of its holistic nature and local controllable postulates, which respond to the state, community and individual demands. Should this paradigm be adopted at the general level, all sectors and social activities would adapt and relate to its criteria.

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Atlas of the World	http://cliffie.nosc.mil/~NATLAS
Bishop Wood Centre	http://www.bishopwoodcentre.org .uk/schools/forest.html
'Boston College' web-page Copyright: Prof. Jeffery Howe.	http://www.bc.edu/bc_org.
Bridgwater College	http://www.bridgwater.ac.uk/fores tschool/
The City of Edinburgh Council page for Gaelic Education	http://www.edinburgh.gov/educati on/gaelicinfo/galiced.html
Convention on the Rights of the Child 1990	http://www.unicef.org/cfc/cfc.htm
Directory of Ancient Egyptian Gods	http://www.osirisweb.com/egypt/ director.htm
The Egyptian-British Chamber of Commerce	http://www.theebcc.com/economi cind/egyecon.shtml
Egyptian Ministry of Education	http://home.moe.edu
The Forestry Commission - UK	http://www.forestry.gov.uk/
'GEO-2000' Global Environment Outlook Report.	http://grid.cr.usgs.gov/geo2000/
'Habitat Agenda' of UN Conference on Human Settlements in Istanbul 1996	http://www.undp.org/un/habitat/a genda/
Highlands and Islands Enterprise	http://www.hie.co.uk
The Informal Education Homepage	http://www.infed.org/schooling/b-vilcol.htm
Information and Decision Support Centre – Egyptian Cabinet	http://www.idsc.gov.eg
Junior Magazine	http://www.juniormagazine.co.uk/
Library of Congress – USA	http://lcweb2.loc.gov
'Portakabin Limited' - York, England	http://www.portakabin.co.uk
Project of Alexandria Library revival web page – UNESCO	http://www.unesco.org/webworld/ alexandria_new/historical.html
State Information Service – Egypt	http://www.sis.gov.eg
Sustainable Development Gateway. Hosted by IISD	http://sdgateway.net
United Nations Educational, Scientific, and Culture Organisation.	http://www.unesco.org
US. Department of State / Bureau of Public Affairs – Federal Depository Library at the University of Illinois.	http://dosfan.lib.uic.edu
World Amazigh Action Coalition	http://www.waac.org
World Bank Group	http://www.worldbank.org

GLOSSARY

Glossary of Terms

Acid rain	Rain, snow, fog and mist which has been acidified by the atmosphere, principally when contaminated by oxides of sulphur and nitrogen (DOE, 1994).
Agenda 21	A comprehensive program of action needed throughout the world to achieve a more sustainable pattern of development for the twenty-first century (DOE, 1994).
Al- or El-	Arabic prefix equivalent to *"the"*
Alem	Scientist or scholar
Bakaloria	The name used to denote the certificate of finishing secondary schooling, particularly during the British colonisation time to Egypt.
Barlaif line	Defensive sand barrier built on the East Bank of Suez Canal by Israel, who claimed atomic bombing the sole way to penetrate it.
Basic Education	The educational stage that encompasses both primary and preparatory schooling.
Canal Zone	The cities and towns overlooking Suez Canal in Egypt, the most known of which are Suez, Ismailia, and Port Sa'id.
CFC	Chlorofluorocarbons, volatile but inert compounds of carbon and (mainly) chlorine and fluorine. Important greenhouse gases and ozone layer depletors (DOE, 1994).
Copt - Coptic	A term used to denote the native Christian Church of Egypt that embrace St. Mark's. It was derived from the Greek name of the country *Aegyptos.*
Cost Benefit Analysis (CBA)	The most comprehensive form of economic appraisal which seeks to quantify in money terms as many of the costs and benefits of a proposal as possible, including items for which the market does not provide a satisfactory measure of economic value (DOE, 1994).
E£	Egyptian pound
E'dadi	Linguistically means "preparatory", used in this context to

	denote the preparatory schooling i.e. the second ring of basic education.
Ecology	The study of the relationship between living organisms and their natural environment. (DOE, 1994)
Ecosystem	A community of interdependent organisms and the environment they inhabit, such as ponds and pond life (DOE, 1994).
Endogenous Development	A development strategy that is based on regional necessities, locally available resources, and activation of indigenous potential. An essential element of the strategy is the broad participation of local population in initiating, planning, implementing and monitoring the process of development.
Environment	1. The totality of external conditions and concrete or abstract Items which affect the behaviour of a system (OSG, 1981). 2. External conditions or surroundings in which people, plants, and animals live, which tend to influence their behaviour. In some studies it is taken to relate to natural media (I.e. air, water, soil, land and natural resources), landscape and countryside, and man-made developments such as buildings and roads (DOE, 1994).
Fallah	Arabic word of "peasant" the plural of which is *Fallaheen,* most relevant to countryside inhabitants.
Feddan	Area measuring unit equivalent to about 4200 m^2
GDP	1. Gross Domestic Product is a value measure of the flow of domestic goods and services produced by an economy over a period of time, such as a year. Only output values of goods for final consumption and investment are included because the values of primary and intermediate production are assumed to be included in final prices. GDP is sometimes aggregated and shown at market prices, meaning that indirect taxes and subsidies are included; when these have been eliminated, the result is GDP at factor cost. The word gross indicates that deductions for depreciation of physical assets have not been made. See also GNP. 2. The sum of all incomes derived from the current production of goods and services earned in the economic territory, wherever the earner of the income may reside (DOE, 1994).
Global Warming	The increase in the average temperature of the earth, thought to be caused by greenhouse gases (DOE, 1994).
GNP	1. Gross National Product is equal to gross domestic product (GDP) plus the net income or loss stemming from transactions with foreign countries. GNP is the broadest

	measure of the output of goods and services by an economy. It can be calculated at market prices, which include indirect taxes and subsidies. Because indirect taxes and subsidies are only transfer payments, GNP is often calculated at factor cost, removing indirect taxes and subsidies. See also GDP. 2. The sum of all incomes earned by the citizens of a country. Some of this income arises from abroad but none of it accrues to non-residents. (DOE, 1994)
Greenhouse Effect	Process by which certain gases (e.g. carbon dioxide, nitrous oxide, methane, ozone and CFC's) convert sun radiation into heat and behave like glass in greenhouse – i.e. allow solar radiation in to heat the interior while reducing the outward emission of heat radiation (DOE, 1994).
Ground Water	Water held in water-bearing rocks, in pores and fissures underground (DOE, 1994).
Hadith	Prophet Mohamed Sayings
Hajj	Muslims pilgrimage to Makkah in Saudi Arabia at the last month of Hijri lunar year that is Zul-Hejja. See also Omra
Heavy Metals	A loose term covering potentially toxic metals used in industrial processes, for example arsenic, cadmium, chromium, copper, lead, nickel and zinc (DOE, 1994).
Hieroglyphic Language	The ancient Egyptian language, its alphabet consisted of 24 letters. It was given this name by the Greek historians.
Ibtedai'yah	Linguistically means "primary", used in this context to denote the primary school ending certificate.
Indigenous Knowledge	The systemic body of knowledge acquired by local people through the accumulation of experiences, informal experiments, and intimate understanding of the environment in a given culture.
Imam	Prayer leader, expanded later to denote leader generally
Iwan	Arched opening to the courtyard, used as lecture hall
Khamasin	Tropical southern sandy storms taking place in Egypt in the period of March to June
Khatib	Preacher
Khedive	Title given to the ruler of Egypt from 1867 to 1914. Governing as semi-independent viceroy of the sultan of Turkey.
Knesset	The Israeli Parliament

Kuttab	A small place for education that teaches some basics of language, religion, and arithmetic. It encompasses one classroom and usually exists in small villages.
Madrassah	Linguistically "school". Considered to be high education institution in early Islamic times.
Madares Khosouseyyah	Khosouseyyah is an Arabic word meaning special, this was a term to denote the high schools during Mohamed Ali's rule in Egypt 1805-1848, and are equivalent to nowadays colleges.
Madares Olia	Linguistically means high schools, they were first set in Egypt during Mohamed Ali's rule, and are thought to equivalent to nowadays colleges.
Madares Taghizeyyah	Tagheezeyyah in Arabic means preparatory, this was a term to denote the preparatory schools during Mohamed Ali's rule in Egypt 1805-1848, and are equivalent to nowadays secondary and preparatory schools.
Makateb Ibteda'eyyah or Ibteda'i	Ibtida'eyyah in Arabic means "primary", this was a term to denote the primary schools starting in Mohamed Ali's rule in Egypt 1805-1848.
Mo'allem	Teacher or instructor
Mufti	Chief religion scientist and legal advisor
Nile Delta	The region determined by the two branches of the river Nile starting about 25km to the north of Cairo.
Omra	Muslims pilgrimage to Makkah in Saudi Arabia at anytime of the year. See also Hajj
Open door policy	Literally "Infitah"; refers to President Sadat's policy after the October 1973 War of relaxing government controls on the economy so as to encourage the private sector and stimulate the inflow of foreign funds.
Ozone Layer	Ozone is a naturally occurring chemically reactive form of oxygen which is found as a gas in the atmosphere. In the upper atmosphere it protects the earth from harmful ultra-violet radiation, where it can be considered as a secondary pollutant in the lower atmosphere (DOE, 1994).
People's Assembly	Refers to the Egyptian Parliament
Pharaonic	Refers to the glories of Egypt's ancient period under the rule of the pharaohs.
Pollutant	A substance that is present at concentrations which cause

	harm or exceed an environmental quality standard (DOE, 1994).
Quadi	Judge
Qur'an	The Muslims Holy book
Ramadan	The ninth month of Hijri lunar year, where Muslims daily fast from dawn until sunset.
Rites	What is meant by Islamic rites is the different interpretations of some details made by four major religion scientist who are: Abu Hanifa, Ibn Malek, Ibn Hanbal & El-Shafie.
Sabil	Water fountain to provide free drinking water for pedestrians, that is widely encouraged by Islam.
Sala	The term often used for a government office in Latin America, and has similar meaning in South-East Asian countries (Riggs, 1964).
Shi'a	From Shi'at Ali, the Party of Ali. Shi'a is the smaller member of the two great divisions of Islam. They support the claims of Ali (the Prophet's cousin) and his descendants right to caliphate and lead the Muslim community, and on this issue they divided from the Sunnis within Islam, with further subdivisions. Ismaili Shi'as are connected with the Fatimid Dynasty in Egypt. See also Sunni
Shura Council	A consultative council that forward studies and proposals to the State and Parliament concerning issues that related to the state policy.
Smog	A sulphurous or photochemical mixture of fog and smoke including suspended particles.
Sunnah	Prophet Mohamed sayings and doings. See also Hadith
Sunni	A member of the larger of the two great divisions of Islam – linguistically the Prophet followers. The Sunnis supported the traditional method of election to the caliphate. Out of which Shi'a division emerged. In Egypt connected to Umayyad. See also Shi'a

Sura	Chapter in Qur'an.
Sustainability	The ability to sustain, i.e. to enable [something] last out or keep going continuously ... sustainability is the ability to achieve sustainable development (Nabih, 1999).
Sustainable Development	A process of change which improves people's quality of life, while protecting the natural and human resources on which future generations rely (UNCHS, 1996). In other words, it is the development which meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987). Development that is likely to achieve lasting satisfaction of human needs and improvement of the quality of life" (Allen, 1980). A pattern of social and structural economic transformations which optimises the economic and societal benefits available in the present, without jeopardising the likely potential for similar benefits in the future" (Goodland & Ledoc, 1987).
Tawgihi	Linguistically means directing, but in this context used to denote the fifth secondary year certificate, i.e. school ending in the year 1935 and after.
El-Thaqafa El-Aammah	Linguistically implies meanings related to culture and knowledge, but use in this context to denote the fourth secondary year certificate in 1935 and after.
Thanawi	Linguistically means 'secondary' - used in this context to denote secondary schooling.
El-Thanaweyyah El-Aammah	General secondary certificate, i.e. the school-ending certificate.
Waqf	Donation in the form of buildings, assets, or projects the revenues of which are dedicated to charities for the sake of God – endowment.
Yom Kippur	Israeli religious feast that necessitates freezing most of the daily life activities.
Zawiyah	A medium size place for prayer and education. Education wise it is considered higher than "*Kuttabs*". Where as for prayers, it is smaller than mosques.

APPENDICES

APPENDIX A

EGYPT'S CHRONOLOGY

Appendix A
Egypt's Chronology

Orthodox Caliphes	(632-661)	Islamic conquest of Egypt (639) under Amr Ibn El-Aas, general of Caliph Omar.
Umayyid Caliphs	(661-750)	
Abbasids	(750-868)	
Tulunids	(868-935)	Establishing the city Al-Quatae by the leader Ahmed IbnTulun.
Ikhshids	(935-969)	
Fatimids	(969-1171)	General Gohar founds the city of Al-Qahira(Cairo), and became centre of ruling the Islamic Empire
Ayyubids	(1171-1250)	
Mamluk Rule	(1250-1517)	
Ottoman Rule	(1517-1805)	Istanbul replaces Cairo as the centre of ruling the Empire
		French Invasion (1798 - 1801)
Mohamed Ali	1805-1848	Starting modern secular Egypt
		Khedevis Period
Rule of Abbas Helmy	1848-1854	
Rule of Sai'd	1854-1863	
Ismail Pasha	1863-1879	
Tawfik Rule	1879-1922	British Colonization (1882-1922)
King Fuad	1922-1936	*Egyptian Kingdom
King Farouk	1936-1952	*The Revolution of 1952
General Mohamed Naguib	1953-1954	Arab Republic of Egypt 1953
Gamal Abel Nasser	1954-1970	
M. Anwar El-Sadat	1970-1981	
M. Hosni Mubarak	1981- now	

APPENDIX B

PILING INDIVIDUAL QUESTION RESPONSES OF ADULT GROUPS' SURVEY

Appendix B
Piling Individual Question Responses of Adult Groups' Survey

Section I: General Information
Q1: Mention five positive things you like in a school, give two reasons for each.

Variables	Administrators	Teachers	Parents	Total
Future development: Future development ... preparing future generations ... preparing good citizens for the future ... planning for better future ... the development of our country ... improving the quality of educational outcome	30	26	10	66
Activities: Activities ... sports ... music ... arts ... theatre ... gardening	16	14	28	58
Hygiene: Hygiene ... health ... contagion ... illness ... cleanliness ... nutrition ... sound build-up ... physical fitness	18	16	22	56
Personality and ethics: Forming children's personality ... caring for the ethical values ... self-dependence ... protect children against bad habits ... smoking ... drugs ... bad words ... cheating ... sound behaviours ... carelessness	14	20	21	55
Learning: Children learn ... expand their knowledge ... benefit ... understand the lessons ... attainment ... concentrate ... develop their mental and thinking abilities ... achieve excel and distinction ... cognitive development	11	11	16	38
Discipline: Discipline ... control ... pupils and staff repeated absenteeism ... obedience	25	10	3	38
Playgrounds and courtyards: There should be enough playgrounds and courtyards	8	8	20	36
Pedagogy and curriculum: Applying modern pedagogy ... modernising curriculum ... omitting irrelevant information from curriculum ... using teaching methods that appeal to pupils ... theatrical curricula ... play learning ... undertaking research ... decrease homework ... avoid blunt memorising to understanding and deriving conclusions ... practical experiments ... promoting discussions	15	4	12	31
Pupil - teacher relationship: Pupils love teacher ... pupils respect teacher ... pupils do not fear teacher ... teacher should be an example for pupils ... physical punishment should be avoided	5	8	12	25
Spaciousness: Large classrooms ... spacious schools	5	6	14	25
Aesthetic qualities: Aesthetic qualities ... beautiful scenes ... good-looking buildings ... general outlook ... decorating the school	7	4	12	23
Qualified teachers: Qualified teachers ... experienced ... ability to conduct information to pupils ... updated ... ability to deal with pupils of different abilities ... hardworking ... honest	5	5	12	22
Staff relations: Staff relations ... co-operation ... understanding ... telling lies ... hypocrisy ... trust ...	8	13	-	21

support ... competition ... family-like ... social gatherings ... friendliness				
Skills: Developing pupil skills ... finding out their interests ... hobbies ... talents	6	4	11	21
Psychological comfort: Psychological comfort ... boredom ... responding to pupils' desires ... pleasant ... nervous tension ... dull ... depressing ... psychological disorders ... frustration	6	7	8	21
Belonging: Belonging ... loving the school ... sense of ownership ... being part of the school ... loving the class	5	8	7	20
Modern facilities: Contemporary laboratories ... computers ... up-to-date facilities ... modern technologies	10	1	8	19
Overcrowding: Avoid classroom overcrowding	3	4	11	18
Locality: Arabic language ... mother tongue ... caring for religion teachings and values ... our identity ... our traditions and values ... our culture ... male/female separation ... our beloved country ... our history and heritage	4	6	8	18
Integration with local community: School integration with community ... integration with surrounding environment ... benefit from nearby stationary, hospital, police-station, fire-station, mosque, church, neighbourhood club and playgrounds ... different courses for parents ... medical, social and political enlightenment for local people ... illiteracy sessions ... wealthy locals should provide material aids to school ... charities and societies contribution ... running summer clubs in school	7	6	5	18
Gardens: Green areas ... gardens ... trees ... flowers ... fields	6	6	6	18
Play: Play ... camping ... entertainment ... ceremonies ... contests	4	3	10	17
Management: Good management ... good system ... fixed timetables ... school reputation ... co-ordination with central authority ... bureaucracy ... trust ... co-operation ... understanding ... support ... anti-nepotism ... fair ... flexible ... close to pupils ... close to teachers	4	8	4	16
Pupils relations: Pupils relations ... sharing coherent social level ... friendship ... equality ... embarrassing poorer ones ... violence ... interaction ... helping one another ... study together ... socialising	3	4	8	15
Safety: Safety ... clinic ... multiple exit ... multiple staircases ... high window-sills ... injuries ... falling down	3	3	9	15
Time: Time waste ... punctuality ... reasonable study hours	4	5	4	13
Parents participation: Parents involvement	4	4	5	13
Library: Having good library ... book varieties ... promoting reading	4	2	6	12
Orientation, Illumination and ventilation: Good orientation ... sunny ... good ventilation and illumination... airy ... fresh air	2	2	6	10
Quiet: Quiet ... not noisy	1	7	1	9
Physical comfort: Fatigue ... physical comfort	3	2	3	8
Facilities: Facilities ... appliances ... swings ... good blackboards ... televisions and videos ... sports equipment ... suitable furniture ... school busses ... explanation devices and models ... swimming pools	2	3	3	8
Foreign education: Foreign languages ...	-	-	7	7

internationally recognised degrees ... comparable pupil levels internationally ... study abroad				
Building condition: New school-building ... good building condition ... well-maintained ... robust ... water leakage ... dampness ... wall cracks ... non-traditional building forms ... broken windows	3	2	2	7
Location: Close to home	1	1	4	6
Financial matters: Finance ... increasing teachers' salaries ... teachers' incentives ... stopping private lessons ... expensive books and stationary ... expensive uniforms ... school budget ... wealthy families have access to better schools and teachers ... providing financial aids to school ... high tuition fees ... commercial attitude in schools ... future job	1	-	3	4
Toilets: Provide enough toilets ... locate toilets within reasonable distances	-	-	3	3
Teachers status: Improving teachers' status and prestige	1	2		3
Age: Recognising age differences in building regards ... in teaching methods ... in classroom allocation	-	-	2	2
Sight: Attending to children sight difficulties	-	1	1	2
Parking: Providing parking areas	-	-	2	2
Classroom flooring: Sloping classroom floor	-	-	1	1
Children Participation: Children participation in school design	-	-	1	1

Q2: Mention five negative things you dislike in school, give two reasons for each.

Variables	Administrators	Teachers	Parents	Total
Future development: Future development ... preparing future generations ... preparing good citizens for the future ... planning for better future ... the development of our country ... improving the quality of educational outcome	23	12	9	44
Hygiene: Hygiene ... health ... contagion ... illness ... cleanliness ... nutrition ... sound build-up ... physical fitness	12	9	17	38
Discipline: Discipline ... control ... pupils and staff repeated absenteeism ... obedience	19	13	11	33
Activities: Activities ... sports ... music ... arts ... theatre ... gardening	9	7	11	27
Learning: Children learn ... expand their knowledge ... benefit ... understand the lessons ... attainment ... concentrate ... develop their mental and thinking abilities ... achieve excel and distinction ... cognitive development	9	6	9	24
Pedagogy and curriculum: Applying modern pedagogy ... modernising curriculum ... omitting irrelevant information from curriculum ... using teaching methods that appeal to pupils ... theatrical curricula ... play learning ... undertaking research ... decrease homework ... avoid blunt memorising to understanding and deriving conclusions ... practical experiments ...	7	7	10	24

promoting discussions				
Spaciousness: Large classrooms ... spacious schools	8	5	10	23
Belonging: Belonging ... loving the school ... sense of ownership ... being part of the school ... loving the class	9	7	7	23
Personality and ethics: Forming children's personality ... caring for the ethical values ... self-dependence ... protect children against bad habits ... smoking ... drugs ... bad words ... cheating ... sound behaviours ... carelessness	3	8	11	22
Playgrounds and courtyards: There should be enough playgrounds and courtyards	6	6	10	22
Management: Good management ... good system ... fixed timetables ... school reputation ... co-ordination with central authority ... bureaucracy ... trust ... co-operation ... understanding ... support ... anti-nepotism ... fair ... flexible ... close to pupils ... close to teachers	6	8	6	20
Pupil - teacher relationship: Pupils love teacher ... pupils respect teacher ... pupils do not fear teacher ... teacher should be an example for pupils ... physical punishment should be avoided	8	5	6	19
Staff Relations: Staff relations ... co-operation ... understanding ... telling lies ... hypocrisy ... trust ... support ... competition ... family-like ... social gatherings ... friendliness	8	8	2	18
Safety: Safety ... clinic ... multiple exit ... multiple staircases ... high window-sills ... injuries ... falling down	4	4	10	18
Parents participation: Parents involvement	2	8	8	18
Qualified teachers: Qualified teachers ... experienced ... ability to conduct information to pupils ... updated ... ability to deal with pupils of different abilities ... hardworking ... honest	6	2	9	17
Integration with local community: School integration with community ... integration with surrounding environment ... benefit from nearby stationary, hospital, police-station, fire-station, mosque, church, neighbourhood club and playgrounds ... different courses for parents ... medical, social and political enlightenment for local people ... illiteracy sessions ... wealthy locals should provide material aids to school ... charities and societies contribution ... running summer clubs in school	8	4	5	17
Financial matters: Finance ... increasing teachers' salaries ... teachers' incentives ... stopping private lessons ... expensive books and stationary ... expensive uniforms ... school budget ... wealthy families have access to better schools and teachers ... providing financial aids to school ... high tuition fees ... commercial attitude in schools ... future job	4	7	6	17
Skills: Developing pupil skills ... finding out their interests ... hobbies ... talents	4	4	8	16
Building condition: New school-building ... good building condition ... well-maintained ... robust ... water leakage ... dampness ... wall cracks ... non-traditional building forms ... broken windows	5	4	7	16
Time: Time waste ... punctuality ... reasonable study hours	3	6	7	16
Overcrowding: Avoid classroom overcrowding	4	4	6	14
Pupils relations: Pupils relations ... sharing coherent	4	7	2	13

social level ... friendship ... equality ... embarrassing poorer ones ... violence ... interaction ... helping one another ... study together ... socialising				
Psychological comfort: Psychological comfort ... boredom ... responding to pupils' desires ... pleasant ... nervous tension ... dull ... depressing ... psychological disorders ... frustration	2	5	6	13
Facilities: Facilities ... appliances ... swings ... good blackboards ... televisions and videos ... sports equipment ... suitable furniture ... school busses ... explanation devices and models ... swimming pools	8	4	1	13
Physical comfort: Fatigue ... physical comfort	2	4	5	11
Aesthetic qualities: Aesthetic qualities ... beautiful scenes ... good-looking buildings ... general outlook ... decorating the school	2	4	3	9
Quiet: Quiet ... not noisy	2	5	2	9
Orientation, Illumination and ventilation: Good orientation ... sunny ... good ventilation and illumination... airy ... fresh air	-	2	6	8
Play: Play ... camping ... entertainment ... ceremonies ... contests	1	2	5	8
Location: Close to home	2	1	4	7
Modern facilities: Contemporary laboratories ... computers ... up-to-date facilities ... modern technologies	2	1	3	6
Locality: Arabic language ... mother tongue ... caring for religion teachings and values ... our identity ... our traditions and values ... our culture ... male/female separation ... our beloved country ... our history and heritage	3	1	2	6
Library: Having good library ... book varieties ... promoting reading	1	1	3	5
Gardens: Green areas ... gardens ... trees ... flowers ... fields	1	2	2	5
Toilets: Provide enough toilets ... locate toilets within reasonable distances	3	-	2	5
Children Participation: Children participation in school design	-		2	2
Foreign education: Foreign languages ... internationally recognised degrees ... comparable pupil levels internationally ... study abroad	-	-	1	1
Sight: Attending to children sight difficulties	-	1	-	1
Teachers status: Improving teachers' status and prestige	-	1	-	1

Q3: Name three schools you most like, give three reasons for each.

Variables	Administrators	Teachers	Parents	Total
Future development: Future development ... preparing future generations ... preparing good citizens for the future ... planning for better future ... the development of our country ... improving the quality of educational outcome	17	21	28	68

Management: Good management ... good system ... fixed timetables ... school reputation ... co-ordination with central authority ... bureaucracy ... trust ... co-operation ... understanding ... support ... anti-nepotism ... fair ... flexible ... close to pupils ... close to teachers	34	19	12	65
Spaciousness: Large classrooms ... spacious schools	12	11	14	37
Hygiene: Hygiene ... health ... contagion ... illness ... cleanliness ... nutrition ... sound build-up ... physical fitness	15	13	8	36
Foreign education: Foreign languages ... internationally recognised degrees ... comparable pupil levels internationally ... study abroad	3	3	29	35
Discipline: Discipline ... control ... pupils and staff repeated absenteeism ... obedience	15	15	5	35
Qualified teachers: Qualified teachers ... experienced ... ability to conduct information to pupils ... updated ... ability to deal with pupils of different abilities ... hardworking ... honest	10	8	14	32
Playgrounds and courtyards: There should be enough playgrounds and courtyards	7	14	6	27
Activities: Activities ... sports ... music ... arts ... theatre ... gardening	12	10	4	26
Facilities: Facilities ... appliances ... swings ... good blackboards ... televisions and videos ... sports equipment ... suitable furniture ... school busses ... explanation devices and models ... swimming pools	9	13	-	22
Building condition: New school-building ... good building condition ... well-maintained ... robust ... water leakage ... dampness ... wall cracks ... non-traditional building forms ... broken windows	8	5	7	20
Staff Relations: Staff relations ... co-operation ... understanding ... telling lies ... hypocrisy ... trust ... support ... competition ... family-like ... social gatherings ... friendliness	9	9	1	19
Pedagogy and curriculum: Applying modern pedagogy ... modernising curriculum ... omitting irrelevant information from curriculum ... using teaching methods that appeal to pupils ... theatrical curricula ... play learning ... undertaking research ... decrease homework ... avoid blunt memorising to understanding and deriving conclusions ... practical experiments ... promoting discussions	3	4	9	16
Location: Good location	2	11	1	14
Gardens: Green areas ... gardens ... trees ... flowers ... fields	4	3	3	10
Modern facilities: Contemporary laboratories ... computers ... up-to-date facilities ... modern technologies	7	2	-	9
Locality: Arabic language ... mother tongue ... caring for religion teachings and values ... our identity ... our traditions and values ... our culture ... male/female separation ... our beloved country ... our history and heritage	2	1	6	9
Parents participation: Parents involvement	1	3	5	9
Financial matters: Finance ... increasing teachers' salaries ... teachers' incentives ... stopping private lessons ... expensive books and stationary ... expensive uniforms ... school budget ... wealthy families have access to better schools and teachers ... providing financial aids to school ... high tuition fees ... commercial attitude in schools ...	4	1	4	9

future job				
Overcrowding: Avoid classroom overcrowding	1	3	4	8
Personality and ethics: Forming children's personality ... caring for the ethical values ... self-dependence ... protect children against bad habits ... smoking ... drugs ... bad words ... cheating ... sound behaviours ... carelessness	2	2	3	7
Integration with local community: School integration with community ... integration with surrounding environment ... benefit from nearby stationary, hospital, police-station, fire-station, mosque, church, neighbourhood club and playgrounds ... different courses for parents ... medical, social and political enlightenment for local people ... illiteracy sessions ... wealthy locals should provide material aids to school ... charities and societies contribution ... running summer clubs in school	3	1	2	6
Aesthetic qualities: Aesthetic qualities ... beautiful scenes ... good-looking buildings ... general outlook ... decorating the school	2	2	2	6
Play: Play ... camping ... entertainment ... ceremonies ... contests	1	4	1	6
Pupils relations: Pupils relations ... sharing coherent social level ... friendship ... equality ... embarrassing poorer ones ... violence ... interaction ... helping one another ... study together ... socialising	2	-	3	5
Library: Having good library ... book varieties ... promoting reading	-	3	1	4
Skills: Developing pupil skills ... finding out their interests ... hobbies ... talents	-	1	2	3
Safety: Safety ... clinic ... multiple exit ... multiple staircases ... high window-sills ... injuries ... falling down	1	1	1	3
Belonging: Belonging ... loving the school ... sense of ownership ... being part of the school ... loving the class	1	2	-	3
Learning: Children learn ... expand their knowledge ... benefit ... understand the lessons ... attainment ... concentrate ... develop their mental and thinking abilities ... achieve excel and distinction ... cognitive development	2	-	-	2
Orientation, Illumination and ventilation: Good orientation ... sunny ... good ventilation and illumination... airy ... fresh air	-	-	2	2
Psychological comfort: Psychological comfort ... boredom ... responding to pupils' desires ... pleasant ... nervous tension ... dull ... depressing ... psychological disorders ... frustration	1	-	-	1
Quiet: Quiet ... not noisy	-	1	-	1
Teachers status: Improving teachers' status and prestige	1	-	-	1

Q4: Name two schools you most dislike, give three reasons for each.

Variables	Administrators	Teachers	Parents	Total
Discipline: Discipline ... control ... pupils and staff repeated absenteeism ... obedience	12	14	8	34
Management: Good management ... good system ... fixed timetables ... school reputation ... co-ordination with central authority ... bureaucracy ... trust ... co-operation ... understanding ... support ... anti-nepotism ... fair ... flexible ... close to pupils ... close to teachers	13	15	4	32
Future development: Future development ... preparing future generations ... preparing good citizens for the future ... planning for better future ... the development of our country ... improving the quality of educational outcome	14	8	7	29
Spaciousness: Large classrooms ... spacious schools	8	13	8	29
Location: Good location	4	9	6	19
Building condition: New school-building ... good building condition ... well-maintained ... robust ... water leakage ... dampness ... wall cracks ... non-traditional building forms ... broken windows	8	2	7	17
Qualified teachers: Qualified teachers ... experienced ... ability to conduct information to pupils ... updated ... ability to deal with pupils of different abilities ... hardworking ... honest	3	6	7	16
Playgrounds and courtyards: There should be enough playgrounds and courtyards	5	5	6	16
Overcrowding: Avoid classroom overcrowding	4	7	4	15
Hygiene: Hygiene ... health ... contagion ... illness ... cleanliness ... nutrition ... sound build-up ... physical fitness	5	6	4	15
Financial matters: Finance ... increasing teachers' salaries ... teachers' incentives ... stopping private lessons ... expensive books and stationary ... expensive uniforms ... school budget ... wealthy families have access to better schools and teachers ... providing financial aids to school ... high tuition fees ... commercial attitude in schools ... future job	7	2	3	12
Personality and ethics: children's personality ... caring for the ethical values ... self-dependence ... protect children against bad habits ... smoking ... drugs ... bad words ... cheating ... sound behaviours ... carelessness	2	4	5	11
Facilities: Facilities ... appliances ... swings ... good blackboards ... televisions and videos ... sports equipment ... suitable furniture ... school busses ... explanation devices and models ... swimming pools	1	4	1	6
Pupil - teacher relationship: Pupils love teacher ... pupils respect teacher ... pupils do not fear teacher ... teacher should be an example for pupils ... physical punishment should be avoided	2	3	-	5
Staff Relations: Staff relations ... co-operation ... understanding ... telling lies ... hypocrisy ... trust ... support ... competition ... family-like ... social gatherings ... friendliness	3	2	-	5
Pedagogy and curriculum: Applying modern	3	-	2	5

pedagogy ... modernising curriculum ... omitting irrelevant information from curriculum ... using teaching methods that appeal to pupils ... theatrical curricula ... play learning ... undertaking research ... decrease homework ... avoid blunt memorising to understanding and deriving conclusions ... practical experiments ... promoting discussions				
Integration with local community: School integration with community ... integration with surrounding environment ... benefit from nearby stationary, hospital, police-station, fire-station, mosque, church, neighbourhood club and playgrounds ... different courses for parents ... medical, social and political enlightenment for local people ... illiteracy sessions ... wealthy locals should provide material aids to school ... charities and societies contribution ... running summer clubs in school	3	1	1	5
Parents participation: Parents involvement	1	3	1	5
Pupils relations: Pupils relations ... sharing coherent social level ... friendship ... equality ... embarrassing poorer ones ... violence ... interaction ... helping one another ... study together ... socialising	1	3	-	4
Activities: Activities ... sports ... music ... arts ... theatre ... gardening	1	1	2	4
Locality: Arabic language ... mother tongue ... caring for religion teachings and values ... our identity ... our traditions and values ... our culture ... male/female separation ... our beloved country ... our history and heritage	-	-	3	3
Foreign education: Foreign languages ... internationally recognised degrees ... comparable pupil levels internationally ... study abroad	-	-	2	2
Aesthetic qualities: Aesthetic qualities ... beautiful scenes ... good-looking buildings ... general outlook ... decorating the school	1	-	1	2
Safety: Safety ... clinic ... multiple exit ... multiple staircases ... high window-sills ... injuries ... falling down	1	-	1	2
Gardens: Green areas ... gardens ... trees ... flowers ... fields	1	1	-	2
Time: Time waste ... punctuality ... reasonable study hours	1	1	-	2
Orientation, Illumination and ventilation: Good orientation ... sunny ... good ventilation and illumination... airy ... fresh air	-	2	-	2
Play: Play ... camping ... entertainment ... ceremonies ... contests	-	1	1	2
Toilets: Provide enough toilets ... locate toilets within reasonable distances	1	-	1	2
Learning: Children learn ... expand their knowledge ... benefit ... understand the lessons ... attainment ... concentrate ... develop their mental and thinking abilities ... achieve excel and distinction ... cognitive development	-	-	1	1
Modern facilities: Contemporary laboratories ... computers ... up-to-date facilities ... modern technologies	-	1	-	1
Skills: Developing pupil skills ... finding out their interests ... hobbies ... talents	1	-	-	1
Teachers status: improving teachers' status and prestige	1	-	-	1

Q5: Mention three roles you like schools to do in the future, give two reasons for each.

Variables	Administrators	Teachers	Parents	Total
Integration with local community: School integration with community ... integration with surrounding environment ... benefit from nearby stationary, hospital, police-station, fire-station, mosque, church, neighbourhood club and playgrounds ... different courses for parents ... medical, social and political enlightenment for local people ... illiteracy sessions ... wealthy locals should provide material aids to school ... charities and societies contribution ... running summer clubs in school	24	18	15	57
Future development: Future development ... preparing future generations ... preparing good citizens for the future ... planning for better future ... the development of our country ... improving the quality of educational outcome	15	14	15	44
Activities: Activities ... sports ... music ... arts ... theatre ... gardening	15	13	11	39
Personality and ethics: Forming children's personality ... caring for the ethical values ... self-dependence ... protect children against bad habits ... smoking ... drugs ... bad words ... cheating ... sound behaviours ... carelessness	7	7	20	34
Hygiene: Hygiene ... health ... contagion ... illness ... cleanliness ... nutrition ... sound build-up ... physical fitness	9	7	8	24
Modern facilities: Contemporary laboratories ... computers ... up-to-date facilities ... modern technologies	10	6	7	23
Locality: Arabic language ... mother tongue ... caring for religion teachings and values ... our identity ... our traditions and values ... our culture ... male/female separation ... our beloved country ... our history and heritage	10	5	8	23
Skills: Developing pupil skills ... finding out their interests ... hobbies ... talents	6	7	9	22
Pedagogy and curriculum: Applying modern pedagogy ... modernising curriculum ... omitting irrelevant information from curriculum ... using teaching methods that appeal to pupils ... theatrical curricula ... play learning ... undertaking research ... decrease homework ... avoid blunt memorising to understanding and deriving conclusions ... practical experiments ... promoting discussions	7	4	10	21
Belonging: Belonging ... loving the school ... sense of ownership ... being part of the school ... loving the class	6	3	6	15
Pupil - teacher relationship: Pupils love teacher ... pupils respect teacher ... pupils do not fear teacher ... teacher should be an example for pupils ... physical punishment should be avoided	-	4	10	14
Library: Having good library ... book varieties ...	6	5	2	13

promoting reading				
Parents participation: Parents involvement	4	4	5	13
Play: Play ... camping ... entertainment ... ceremonies ... contests	4	3	4	11
Qualified teachers: Qualified teachers ... experienced ... ability to conduct information to pupils ... updated ... ability to deal with pupils of different abilities ... hardworking ... honest	7	1	2	10
Learning: Children learn ... expand their knowledge ... benefit ... understand the lessons ... attainment ... concentrate ... develop their mental and thinking abilities ... achieve excel and distinction ... cognitive development	3	2	4	9
Staff Relations: Staff relations ... co-operation ... understanding ... telling lies ... hypocrisy ... trust ... support ... competition ... family-like ... social gatherings ... friendliness	-	6	3	9
Aesthetic qualities: Aesthetic qualities ... beautiful scenes ... good-looking buildings ... general outlook ... decorating the school	1	4	2	7
Financial matters: Finance ... increasing teachers' salaries ... teachers' incentives ... stopping private lessons ... expensive books and stationary ... expensive uniforms ... school budget ... wealthy families have access to better schools and teachers ... providing financial aids to school ... high tuition fees ... commercial attitude in schools ... future job	2	3	1	6
Management: Good management ... good system ... fixed timetables ... school reputation ... co-ordination with central authority ... bureaucracy ... trust ... co-operation ... understanding ... support ... anti-nepotism ... fair ... flexible ... close to pupils ... close to teachers	1	4	-	5
Psychological comfort: Psychological comfort ... boredom ... responding to pupils' desires ... pleasant ... nervous tension ... dull ... depressing ... psychological disorders ... frustration	1	1	3	5
Building condition: New school-building ... good building condition ... well-maintained ... robust ... water leakage ... dampness ... wall cracks ... non-traditional building forms ... broken windows	1	3	-	4
Time: Time waste ... punctuality ... reasonable study hours	3	1	-	4
Teachers status: Improving teachers' status and prestige	1	3	-	4
Pupils relations: Pupils relations ... sharing coherent social level ... friendship ... equality ... embarrassing poorer ones ... violence ... interaction ... helping one another ... study together ... socialising	-	-	3	3
Foreign education: Foreign languages ... internationally recognised degrees ... comparable pupil levels internationally ... study abroad	1	-	2	3
Safety: Safety ... clinic ... multiple exit ... multiple staircases ... high window-sills ... injuries ... falling down	-	-	3	3
Spaciousness: Large classrooms ... spacious schools	1	2	-	3
Playgrounds and courtyards: There should be enough playgrounds and courtyards	2		1	3
Physical comfort: Fatigue ... physical comfort	1	1	1	3
Discipline: Discipline ... control ... pupils and staff repeated absenteeism ... obedience	1	-	2	3

Gardens: Green areas ... gardens ... trees ... flowers ... fields	-	2	-	2
Overcrowding: Avoid classroom overcrowding	-	1	-	1
Location: Good location	-	1	-	1
Facilities: Facilities ... appliances ... swings ... good blackboards ... televisions and videos ... sports equipment ... suitable furniture ... school busses ... explanation devices and models ... swimming pools	-	-	1	1

Q6: Mention three things you wish they do not exist in schools in the future, give two reasons for each.

Variables	Administrators	Teachers	Parents	Total
Overcrowding: Avoid classroom overcrowding	12	8	10	30
Future development: Future development ... preparing future generations ... preparing good citizens for the future ... planning for better future ... the development of our country ... improving the quality of educational outcome	17	5	8	30
Discipline: Discipline ... control ... pupils and staff repeated absenteeism ... obedience	12	12	4	28
Learning: Children learn ... expand their knowledge ... benefit ... understand the lessons ... concentrate ... develop their mental and thinking abilities ... achieve excel and distinction ... cognitive development	8	6	5	19
Pedagogy and curriculum: Applying modern pedagogy ... modernising curriculum ... omitting irrelevant information from curriculum ... using teaching methods that appeal to pupils ... theatrical curricula ... play learning ... undertaking research ... decrease homework ... avoid blunt memorising to understanding and deriving conclusions ... practical experiments ... promoting discussions	7	4	7	18
Integration with local community: School integration with community ... integration with surrounding environment ... benefit from nearby stationary, hospital, police-station, fire-station, mosque, church, neighbourhood club and playgrounds ... different courses for parents ... medical, social and political enlightenment for local people ... illiteracy sessions ... wealthy locals should provide material aids to school ... charities and societies contribution ... running summer clubs in school	10	5	3	18
Financial matters: Finance ... increasing teachers' salaries ... teachers' incentives ... stopping private lessons ... expensive books and stationary ... expensive uniforms ... school budget ... wealthy families have access to better schools and teachers ... providing financial aids to school ... high tuition fees ... commercial attitude in schools ... future job	5	2	11	18
Pupil - teacher relationship: Pupils love teacher ... pupils respect teacher ... pupils do not fear teacher ...	7	5	5	17

teacher should be an example for pupils ... physical punishment should be avoided				
Activities: Activities ... sports ... music ... arts ... theatre ... gardening	6	3	8	17
Personality and ethics: Forming children's personality ... caring for the ethical values ... self-dependence ... protect children against bad habits ... smoking ... drugs ... bad words ... cheating ... sound behaviours ... carelessness	3	4	8	15
Playgrounds and courtyards: There should be enough playgrounds and courtyards	6	4	5	15
Parents participation: Parents involvement	2	9	3	14
Management: Good management ... good system ... fixed timetables ... school reputation ... co-ordination with central authority ... bureaucracy ... trust ... co-operation ... understanding ... support ... anti-nepotism ... fair ... flexible ... close to pupils ... close to teachers	4	5	4	13
Pupils relations: Pupils relations ... sharing coherent social level ... friendship ... equality ... embarrassing poorer ones ... violence ... interaction ... helping one another ... study together ... socialising	3	1	8	12
Staff Relations: Staff relations ... co-operation ... understanding ... telling lies ... hypocrisy ... trust ... support ... competition ... family-like ... social gatherings ... friendliness	5	7	-	12
Time: Time waste ... punctuality ... reasonable study hours	7	2	3	12
Spaciousness: Large classrooms ... spacious schools	6	3	3	12
Hygiene: Hygiene ... health ... contagion ... illness ... cleanliness ... nutrition ... sound build-up ... physical fitness	1	4	6	11
Qualified teachers: Qualified teachers ... experienced ... ability to conduct information to pupils ... updated ... ability to deal with pupils of different abilities ... hardworking ... honest	2	3	5	10
Locality: Arabic language ... mother tongue ... caring for religion teachings and values ... our identity ... our traditions and values ... our culture ... male/female separation ... our beloved country ... our history and heritage	2	2	3	7
Physical comfort: Fatigue ... physical comfort	-	4	3	7
Facilities: Facilities ... appliances ... swings ... good blackboards ... televisions and videos ... sports equipment ... suitable furniture ... school busses ... explanation devices and models ... swimming pools	3	4	-	7
Building condition: New school-building ... good building condition ... well-maintained ... robust ... water leakage ... dampness ... wall cracks ... non-traditional building forms ... broken windows	1	2	3	6
Safety: Safety ... clinic ... multiple exit ... multiple staircases ... high window-sills ... injuries ... falling down	1	2	3	6
Belonging: Belonging ... loving the school ... sense of ownership ... being part of the school ... loving the class	2	1	3	6
Play: Play ... camping ... entertainment ... ceremonies ... contests	1	-	4	5
Aesthetic qualities: Aesthetic qualities ... beautiful scenes ... good-looking buildings ... general outlook ... decorating the school	1	1	2	4

Gardens: Green areas ... gardens ... trees ... flowers ... fields	-	1	3	4
Psychological comfort: Psychological comfort ... boredom ... responding to pupils' desires ... pleasant ... nervous tension ... dull ... depressing ... psychological disorders ... frustration	2	2	-	4
Skills: Developing pupil skills ... finding out their interests ... hobbies ... talents	1	-	2	3
Toilets: Provide enough toilets ... locate toilets within reasonable distances	-	2	1	3
Modern facilities: Contemporary laboratories ... computers ... up-to-date facilities ... modern technologies	-	-	2	2
Foreign education: Foreign languages ... internationally recognised degrees ... comparable pupil levels internationally ... study abroad	-	-	1	1
Library: Having good library ... book varieties ... promoting reading	1	-	1	2
Orientation, Illumination and ventilation: Good orientation ... sunny ... good ventilation and illumination... airy ... fresh air	-	1	1	2
Location: Good location	-	1	1	2
Quiet: Quiet ... not noisy	-	1	-	1
Teachers status: Improving teachers' status and prestige	-	-	1	1

Section II: Site Information

Q1: Mention three important things you like in a school-site, give two reasons for each.

Variables	Administrators	Teachers	Parents	Total
Hygiene: Hygiene ... health ... contagion ... illness ... cleanliness ... nutrition ... sound build-up ... physical fitness	18	20	20	58
Quiet: Quiet ... not noisy	23	14	17	54
Location: Close to home	14	15	22	51
Safety: Safety ... clinic ... multiple exit ... multiple staircases ... high window-sills ... injuries ... falling down	15	13	16	44
Pollution: Pollution ... smoke ... fumes ... exhausts ... bad odours	12	9	20	41
Integration with local community: School integration with community ... integration with surrounding environment ... benefit from nearby stationary, hospital, police-station, fire-station, mosque, church, neighbourhood club and playgrounds ... different courses for parents ... medical, social and political enlightenment for local people ... illiteracy sessions ... wealthy locals should provide material aids to school ... charities and societies contribution ... running summer clubs in school	15	11	10	36

Spaciousness: Large classrooms ... spacious schools	12	8	11	31
Location: Easily accessible	10	6	13	29
Location: Keeping distance from surrounding buildings	8	8	13	29
Location: School should not be very close to busy high-speed roads	9	10	9	28
Gardens: Green areas ... gardens ... trees ... flowers ... fields	9	8	11	28
Location: School should be far from factories and workshops	14	8	5	27
Learning: Children learn ... expand their knowledge ... benefit ... understand the lessons ... concentrate ... develop their mental and thinking abilities ... achieve excel and distinction ... cognitive development	9	5	9	23
Orientation, Illumination and ventilation: Good orientation ... sunny ... good ventilation and illumination... airy ... fresh air	12	6	3	21
Playgrounds and courtyards: There should be enough playgrounds and courtyards	10	6	4	20
Aesthetic qualities: Aesthetic qualities ... beautiful scenes ... good-looking buildings ... general outlook ... decorating the school	6	6	6	18
School should not be very close to traffic congestion ... School should not cause traffic congestion	5	3	10	18
Physical comfort: Fatigue ... physical comfort	6	5	5	16
Activities: Activities ... sports ... music ... arts ... theatre ... gardening	6	4	5	15
Psychological comfort: Psychological comfort ... boredom ... responding to pupils' desires ... pleasant ... nervous tension ... dull ... depressing ... psychological disorders ... frustration	4	5	6	15
Time: Time waste ... punctuality ... reasonable study hours	4	4	5	13
Location: School should be close to public transports	8	2	2	12
Personality and ethics: Forming children's personality ... caring for the ethical values ... self-dependence ... protect children against bad habits ... smoking ... drugs ... bad words ... cheating ... sound behaviours ... carelessness	4	2	4	10
Privacy: Privacy ... outsiders do not see or interfere with what happens in the school ... pupils do not look at nearby houses	2	5	3	10
Location: Good roads ... wide ... well-paved ... known	1	3	4	8
Toilets: Provide enough toilets ... locate toilets within reasonable distances	4	3	-	7
Building condition: New school-building ... good building condition ... well-maintained ... robust ... water leakage ... dampness ... wall cracks ... non-traditional building forms ... broken windows	1	5	-	6
Play: Play ... camping ... entertainment ... ceremonies ... contests	3	1	2	6
School should not be very close to shops or market	2	2	2	6
Overcrowding: Avoid classroom overcrowding	4	-	1	5
Parking: Providing parking areas	-	1	4	5
Entrances: Multiple entrances ... staff entrance different from pupils' ... separate entrance for visitors ... different entrances from different streets	2	-	3	5
Location: Infra-structure should be available on school site	1	3	1	5
Locality: Arabic language ... mother tongue ... caring	1	2	1	4

for religion teachings and values ... our identity ... our traditions and values ... our culture ... male/female separation ... our beloved country ... our history and heritage				
Skills: Developing pupil skills ... finding out their interests ... hobbies ... talents	3	-	-	3
Belonging: Belonging ... loving the school ... sense of ownership ... being part of the school ... loving the class	1	-	2	3
Parents participation: Parents involvement	1	1	1	3
Discipline: Discipline ... control ... pupils and staff repeated absenteeism ... obedience	-	-	3	3
Location: Attention to the dangers of crossing streets on children	2	-	1	3
Library: Having good library ... book varieties ... promoting reading	-	1	1	2
Future development: Future development ... preparing future generations ... preparing good citizens for the future ... planning for better future ... the development of our country ... improving the quality of educational outcome	1	1	-	2
Building height: Prefer low school-building ... horizontal design ... not with many stories	-	1	1	2
Location: No many schools besides one another [school complexes]	-	1	1	2
Location: School should not be very close to police station	-	-	2	2
Location: School should not be very close to hospitals	-	-	2	2
Location: Prefer to be near other schools	1	1	-	2
Pupils relations: Pupils relations ... sharing coherent social level ... friendship ... equality ... embarrassing poorer ones ... violence ... interaction ... helping one another ... study together ... socialising	-	-	1	1
Qualified teachers: Qualified teachers ... experienced ... ability to conduct information to pupils ... updated ... ability to deal with pupils of different abilities ... hardworking ... honest	-	1	-	1
Financial matters: Finance ... increasing teachers' salaries ... teachers' incentives ... stopping private lessons ... expensive books and stationary ... expensive uniforms ... school budget ... wealthy families have access to better schools and teachers ... providing financial aids to school ... high tuition fees ... commercial attitude in schools ... future job	-	-	1	1
Location: School should not be very close to cemetery	-	-	1	1
Location: School should not be very close to canals	-	1	-	1
Location: School should not be very close to cinemas and café's	-	1	-	1
Location: School should not be very close to railway	1	-	-	1

Q2: Mention three things you dislike in a school-site, give two reasons for each.

Variables	Administrators	Teachers	Parents	Total
Hygiene: Hygiene ... health ... contagion ... illness ... cleanliness ... nutrition ... sound build-up ... physical fitness	13	18	11	42
Quiet: Quiet ... not noisy	11	13	13	37
Location: School should be far from factories and workshops	9	11	9	29
Safety: Safety ... clinic ... multiple exit ... multiple staircases ... high window-sills ... injuries ... falling down	8	9	11	28
Location: Close to home	8	7	11	26
Learning: Children learn ... expand their knowledge ... benefit ... understand the lessons ... concentrate ... develop their mental and thinking abilities ... achieve excel and distinction ... cognitive development	6	9	7	22
Pollution: Pollution ... smoke ... fumes ... exhausts ... bad odours	7	3	11	21
Location: School should not be very close to busy high-speed roads	4	6	8	18
Spaciousness: Large classrooms ... spacious schools	5	8	4	17
Location: Keeping distance from surrounding buildings	7	5	5	17
Playgrounds and courtyards: There should be enough playgrounds and courtyards	4	7	4	15
Integration with local community: School integration with community ... integration with surrounding environment ... benefit from nearby stationary, hospital, police-station, fire-station, mosque, church, neighbourhood club and playgrounds ... different courses for parents ... medical, social and political enlightenment for local people ... illiteracy sessions ... wealthy locals should provide material aids to school ... charities and societies contribution ... running summer clubs in school	2	5	6	13
Location: Easily accessible	4	2	6	12
Location: School should not be very close to traffic congestion ... School should not cause traffic congestion	2	3	7	12
Personality and ethics: Forming children's personality ... caring for the ethical values ... self-dependence ... protect children against bad habits ... smoking ... drugs ... bad words ... cheating ... sound behaviours ... carelessness	3	3	5	11
Orientation, Illumination and ventilation: Good orientation ... sunny ... good ventilation and illumination... airy ... fresh air	4	3	2	9
Gardens: Green areas ... gardens ... trees ... flowers ... fields	2	2	4	8
Location: School should not be very close to shops or market	2	2	4	8
Aesthetic qualities: Aesthetic qualities ... beautiful scenes ... good-looking buildings ... general outlook ... decorating the school	-	4	3	7

Building condition: New school-building ... good building condition ... well-maintained ... robust ... water leakage ... dampness ... wall cracks ... non-traditional building forms ... broken windows	1	4	1	6
Psychological comfort: Psychological comfort ... boredom ... responding to pupils' desires ... pleasant ... nervous tension ... dull ... depressing ... psychological disorders ... frustration	4	1	1	6
Location: Good roads ... wide ... well-paved ... known	2	2	2	6
Privacy: Privacy ... outsiders do not see or interfere with what happens in the school ... pupils do not look at nearby houses	-	4	2	6
Time: Time waste ... punctuality ... reasonable study hours	2	1	2	5
Entrances: Multiple entrances ... staff entrance different from pupils' ... separate entrance for visitors ... different entrances from different streets	2	2	1	5
Overcrowding: Avoid classroom overcrowding	2	2	-	4
Belonging: Belonging ... loving the school ... sense of ownership ... being part of the school ... loving the class	1	-	3	4
Physical comfort: Fatigue ... physical comfort	-	-	4	4
School should not be very close to railway	-	1	3	4
Play: Play ... camping ... entertainment ... ceremonies ... contests	1	1	1	3
Location: Infra-structure should be available on school site	3	-	-	3
Location: School should not be very close to canals	1	2	-	3
Pupil - teacher relationship: Pupils love teacher ... pupils respect teacher ... pupils do not fear teacher ... teacher should be an example for pupils ... physical punishment should be avoided	1	1	-	2
Activities: Activities ... sports ... music ... arts ... theatre ... gardening	1	1	-	2
Parents participation: Parents involvement	-	-	2	2
Location: School should not be very close to cemetery	2	-	-	2
Location: School should not be very close to police station	2	-	-	2
Location: School should be close to public transports	1	-	1	2
Location: School should not be very close to cinemas and café's	1	-	1	2
Fences: Remove school fences ... fence should not be as high as prisons'	1	-	1	2
Skills: Developing pupil skills ... finding out their interests ... hobbies ... talents	1	-	-	1
Locality: Arabic language ... mother tongue ... caring for religion teachings and values ... our identity ... our traditions and values ... our culture ... male/female separation ... our beloved country ... our history and heritage	-	-	1	1
Toilets: Provide enough toilets ... locate toilets within reasonable distances	-	1	-	1
Parking: Providing parking areas	-	-	1	1
Financial matters: Finance ... increasing teachers' salaries ... teachers' incentives ... stopping private lessons ... expensive books and stationary ... expensive uniforms ... school budget ... wealthy families have access to better schools and teachers ... providing financial aids to school ... high tuition fees ... commercial attitude in schools ... future job	-	1	-	1

Building height: Prefer low school-building ... horizontal design ... not with many stories	-	-	1	1
Location: No many schools besides one another [school complexes]	-	-	1	1
Location: School should not be very close to hospitals	1	-	-	1
Location: School should not be very close cages, stables, and slaughterhouse	1	-	-	1

Section III: Building Information

Q1: Mention three things you like in a school-building, give two reasons for each.

Variables	Administrators	Teachers	Parents	Total
Spaciousness: Large classrooms ... spacious schools	19	15	18	52
Hygiene: Hygiene ... health ... contagion ... illness ... cleanliness ... nutrition ... sound build-up ... physical fitness	7	10	16	33
Orientation, Illumination and ventilation: Good orientation ... sunny ... good ventilation and illumination... airy ... fresh air	15	10	7	32
Aesthetic qualities: Aesthetic qualities ... beautiful scenes ... good-looking buildings ... general outlook ... decorating the school	5	8	13	26
Activities: Activities ... sports ... music ... arts ... theatre ... gardening	11	9	5	25
Building height: Prefer low school-building ... horizontal design ... not with many stories	10	2	12	24
Playgrounds and courtyards: There should be enough playgrounds and courtyards	8	4	10	22
Psychological comfort: Psychological comfort ... boredom ... responding to pupils' desires ... pleasant ... nervous tension ... dull ... depressing ... psychological disorders ... frustration	4	10	6	20
Safety: Safety ... clinic ... multiple exit ... multiple staircases ... high window-sills ... injuries ... falling down	4	5	9	18
Gardens: Green areas ... gardens ... trees ... flowers ... fields	3	10	4	17
Physical comfort: Fatigue ... physical comfort	7	5	5	17
Toilets: Provide enough toilets ... locate toilets within reasonable distances	9	1	5	15
Learning: Children learn ... expand their knowledge ... benefit ... understand the lessons ... attainment ... concentrate ... develop their mental and thinking abilities ... achieve excel and distinction ... cognitive development	3	6	3	12
Overcrowding: Avoid classroom overcrowding	6	3	2	11
Building condition: New school-building ... good building condition ... well-maintained ... robust ... water leakage ... dampness ... wall cracks ... non-traditional building forms ... broken windows	3	2	4	9
Age: Recognising age differences in building regards ... in teaching methods ... in classroom allocation	2	3	3	8

Belonging: Belonging ... loving the school ... sense of ownership ... being part of the school ... loving the class	1	3	3	7
Staff rooms: Providing sufficient staff rooms	4	3		7
Play: Play ... camping ... entertainment ... ceremonies ... contests	2	1	3	6
Future development: Future development ... preparing future generations ... preparing good citizens for the future ... planning for better future ... the development of our country ... improving the quality of educational outcome	2	3	1	6
Staircases and corridors: Providing wide corridors and staircases	2	-	4	6
Personality and ethics: Forming children's personality ... caring for the ethical values ... self-dependence ... protect children against bad habits ... smoking ... drugs ... bad words ... cheating ... sound behaviours ... carelessness	1	3	1	5
Modern facilities: Contemporary laboratories ... computers ... up-to-date facilities ... modern technologies	3	1	1	5
Integration with local community: School integration with community ... integration with surrounding environment ... benefit from nearby stationary, hospital, police-station, fire-station, mosque, church, neighbourhood club and playgrounds ... different courses for parents ... medical, social and political enlightenment for local people ... illiteracy sessions ... wealthy locals should provide material aids to school ... charities and societies contribution ... running summer clubs in school	-	-	5	5
Pupils relations: Pupils relations ... sharing coherent social level ... friendship ... equality ... embarrassing poorer ones ... violence ... interaction ... helping one another ... study together ... socialising	1	2	1	4
Library: Having good library ... book varieties ... promoting reading	1	1	2	4
Pedagogy and curriculum: Applying modern pedagogy ... modernising curriculum ... omitting irrelevant information from curriculum ... using teaching methods that appeal to pupils ... theatrical curricula ... play learning ... undertaking research ... decrease homework ... avoid blunt memorising to understanding and deriving conclusions ... practical experiments ... promoting discussions	-	4	-	4
Colours: Bright colours ... pleasant colours	-	2	2	4
Pupil - teacher relationship: Pupils love teacher ... pupils respect teacher ... pupils do not fear teacher ... teacher should be an example for pupils ... physical punishment should be avoided	2	1	-	3
Skills: Developing pupil skills ... finding out their interests ... hobbies ... talents	1	1	1	3
Location: Close to home	3	-	-	3
Quiet: Quiet ... not noisy	-	2	1	3
Facilities: Facilities ... appliances ... swings ... good blackboards ... televisions and videos ... sports equipment ... suitable furniture ... school busses ... explanation devices and models ... swimming pools	2	1	-	3
Entrances: Multiple entrances ... staff entrance different from pupils' ... separate entrance for visitors ... different entrances from different streets	1	2	-	3

Fences: Remove school fences ... fence should not be as high as prisons'	2	1	-	3
Time: Time waste ... punctuality ... reasonable study hours	1	-	1	2
Sight: Attending to children sight difficulties	-	2		2
Pollution: Pollution ... smoke ... fumes ... exhausts ... bad odours	-	1	1	2
Location: Keeping distance from surrounding buildings	2	-	-	2
Prayer room: Providing a prayer room	1	1	-	2
Canteen: School should have a canteen and a restaurant	1	-	1	2
Staff relations: Staff relations ... co-operation ... understanding ... telling lies ... hypocrisy ... trust ... support ... competition ... family-like ... social gatherings ... friendliness	-	1	-	1
Locality: Arabic language ... mother tongue ... caring for religion teachings and values ... our identity ... our traditions and values ... our culture ... male/female separation ... our beloved country ... our history and heritage	-	1	-	1
Children Participation: Children participation in school design	1	-	-	1
Financial matters: Finance ... increasing teachers' salaries ... teachers' incentives ... stopping private lessons ... expensive books and stationary ... expensive uniforms ... school budget ... wealthy families have access to better schools and teachers ... providing financial aids to school ... high tuition fees ... commercial attitude in schools ... future job	1	-	-	1
Location: Attention to the dangers of crossing streets on children	1	-	-	1
Earthquakes: Attention to earthquake precautions	-	-	1	1
Storage: There should be enough storage areas in the school	1	-	-	1
Media centre: School media centre	1	-	-	1

Q2: Mention three things you dislike in a school-building, give two reasons for each.

Variables	Administrators	Teachers	Parents	Total
Spaciousness: Large classrooms ... spacious schools	13	11	10	34
Orientation, Illumination and ventilation: Good orientation ... sunny ... good ventilation and illumination... airy ... fresh air	13	9	8	30
Hygiene: Hygiene ... health ... contagion ... illness ... cleanliness ... nutrition ... sound build-up ... physical fitness	7	4	10	21
Building condition: New school-building ... good building condition ... well-maintained ... robust ... water leakage ... dampness ... wall cracks ... non-traditional building forms ... broken windows	7	5	8	20
Building height: Prefer low school-building ...	5	5	10	20

horizontal design ... not with many stories				
Psychological comfort: Psychological comfort ... boredom ... responding to pupils' desires ... pleasant ... nervous tension ... dull ... depressing ... psychological disorders ... frustration	2	4	8	14
Playgrounds and courtyards: There should be enough playgrounds and courtyards	5	6	2	13
Staff rooms: Providing sufficient staff rooms	6	5	1	12
Aesthetic qualities: Aesthetic qualities ... beautiful scenes ... good-looking buildings ... general outlook ... decorating the school	1	6	4	11
Safety: Safety ... clinic ... multiple exit ... multiple staircases ... high window-sills ... injuries ... falling down	-	2	9	11
Toilets: Provide enough toilets ... locate toilets within reasonable distances	4	3	4	11
Physical comfort: Fatigue ... physical comfort	1	2	7	10
Activities: Activities ... sports ... music ... arts ... theatre ... gardening	3	5	1	9
Gardens: Green areas ... gardens ... trees ... flowers ... fields	3	5	1	9
Learning: Children learn ... expand their knowledge ... benefit ... understand the lessons ... attainment ... concentrate ... develop their mental and thinking abilities ... achieve excel and distinction ... cognitive development	3	4	1	8
Staircases and corridors: Providing wide corridors and staircases	1	1	5	7
Overcrowding: Avoid classroom overcrowding	3	2		5
Quiet: Quiet ... not noisy	1	2	2	5
Facilities: Facilities ... appliances ... swings ... good blackboards ... televisions and videos ... sports equipment ... suitable furniture ... school busses ... explanation devices and models ... swimming pools	2	2	1	5
Location: Keeping distance from surrounding buildings	2	1	1	4
Entrances: Multiple entrances ... staff entrance different from pupils' ... separate entrance for visitors ... different entrances from different streets	2	-	2	4
Personality and ethics: Forming children's personality ... caring for the ethical values ... self-dependence ... protect children against bad habits ... smoking ... drugs ... bad words ... cheating ... sound behaviours ... carelessness	-	1	2	3
Location: Close to home	3	-	-	3
Age: Recognising age differences in building regards ... in teaching methods ... in classroom allocation	1	2	-	3
Colours: Bright colours ... pleasant colours	-	-	3	3
Modern facilities: Contemporary laboratories ... computers ... up-to-date facilities ... modern technologies	1	1	-	2
Skills: Developing pupil skills ... finding out their interests ... hobbies ... talents	-	1	1	2
Management: Good management ... good system ... fixed timetables ... school reputation ... co-ordination with central authority ... bureaucracy ... trust ... co-operation ... understanding ... support ... anti-nepotism ... fair ... flexible ... close to pupils ... close to teachers	1	-	1	2
Locality: Arabic language ... mother tongue ... caring for religion teachings and values ... our identity ... our traditions and values ... our culture ... male/female separation ... our beloved country ... our history and	-	1	1	2

heritage				
Future development: Future development ... preparing future generations ... preparing good citizens for the future ... planning for better future ... the development of our country ... improving the quality of educational outcome	2	-	-	2
Time: Time waste ... punctuality ... reasonable study hours	1	1	-	2
Belonging: Belonging ... loving the school ... sense of ownership ... being part of the school ... loving the class	-	-	2	2
Play: Play ... camping ... entertainment ... ceremonies ... contests	1	-	1	2
Privacy: Privacy ... outsiders do not see or interfere with what happens in the school ... pupils do not look at nearby houses	-	1	1	2
Parents participation: Parents involvement	1	-	-	1
Parking: Providing parking areas	-	-	1	1
Discipline: Discipline ... control ... pupils and staff repeated absenteeism ... obedience	-	1	-	1
Location: School should not be very close to busy high-speed roads	-	1	-	1
Pollution: Pollution ... smoke ... fumes ... exhausts ... bad odours	1	-	-	1
School should not be very close to shops or market	1	-	-	1
Prayer room: Providing a prayer room	-	1	-	1
Fences: Remove school fences ... fence should not be as high as prisons'	-	1	-	1
Earthquakes: Attention to earthquake precautions	-	-	1	1

Q3: Mention three things you like to happen to improve school design.

Variables	Administrators	Teachers	Parents	Total
Spaciousness: Large classrooms ... spacious schools	16	14	11	41
Playgrounds and courtyards: There should be enough playgrounds and courtyards	10	13	11	34
Gardens: Green areas ... gardens ... trees ... flowers ... fields	5	12	6	23
Aesthetic qualities: Aesthetic qualities ... beautiful scenes ... good-looking buildings ... general outlook ... decorating the school	7	7	6	20
Activities: Activities ... sports ... music ... arts ... theatre ... gardening	14	4	-	18
Orientation, Illumination and ventilation: Good orientation ... sunny ... good ventilation and illumination... airy ... fresh air	5	5	5	15
Safety: Safety ... clinic ... multiple exit ... multiple staircases ... high window-sills ... injuries ... falling down	6	1	7	14
Building height: Prefer low school-building ... horizontal design ... not with many stories	5	3	6	14
Toilets: Provide enough toilets ... locate toilets within	6	3	4	13

reasonable distances				
Modern facilities: Contemporary laboratories ... computers ... up-to-date facilities ... modern technologies	4	2	6	12
Location: Good location	6	4	2	12
Future development: Future development ... preparing future generations ... preparing good citizens for the future ... planning for better future ... the development of our country ... improving the quality of educational outcome	5	3	2	10
Staircases and corridors: Providing wide corridors and staircases	6	-	3	9
Overcrowding: Avoid classroom overcrowding	4	2	2	8
Quiet: Quiet ... not noisy	2	4	2	8
Staff rooms: Providing sufficient staff rooms	3	5		8
Integration with local community: School integration with community ... integration with surrounding environment ... benefit from nearby stationary, hospital, police-station, fire-station, mosque, church, neighbourhood club and playgrounds ... different courses for parents ... medical, social and political enlightenment for local people ... illiteracy sessions ... wealthy locals should provide material aids to school ... charities and societies contribution ... running summer clubs in school	-	3	4	7
Children Participation: Children participation in school design	1	4	2	7
Age: Recognising age differences in building regards ... in teaching methods ... in classroom allocation	2	2	3	7
Library: Having good library ... book varieties ... promoting reading	3	2	1	6
Building condition: New school-building ... good building condition ... well-maintained ... robust ... water leakage ... dampness ... wall cracks ... non-traditional building forms ... broken windows	3	1	2	6
Facilities: Facilities ... appliances ... swings ... good blackboards ... televisions and videos ... sports equipment ... suitable furniture ... school busses ... explanation devices and models ... swimming pools	2	2	2	6
Hygiene: Hygiene ... health ... contagion ... illness ... cleanliness ... nutrition ... sound build-up ... physical fitness	1	-	4	5
Staff participation: Staff participation in school design	1	3	1	5
Locality: Arabic language ... mother tongue ... caring for religion teachings and values ... our identity ... our traditions and values ... our culture ... male/female separation ... our beloved country ... our history and heritage	1	1	2	4
Psychological comfort: Psychological comfort ... boredom ... responding to pupils' desires ... pleasant ... nervous tension ... dull ... depressing ... psychological disorders ... frustration	1	1	2	4
Canteen: School should have a canteen and a restaurant	2	1	1	4
Belonging: Belonging ... loving the school ... sense of ownership ... being part of the school ... loving the class	-	1	2	3
Physical comfort: Fatigue ... physical comfort	1	1	1	3
Pollution: Pollution ... smoke ... fumes ... exhausts ... bad odours	-	-	3	3
Entrances: Multiple entrances ... staff entrance different from pupils' ... separate entrance for visitors ... different	1	1	1	3

entrances from different streets				
Colours: Bright colours … pleasant colours	1	-	2	3
Earthquakes: Attention to earthquake precautions	1	1	1	3
Building materials: Using high-quality building materials	-	-	3	3
Pedagogy and curriculum: Applying modern pedagogy … modernising curriculum … omitting irrelevant information from curriculum … using teaching methods that appeal to pupils … theatrical curricula … play learning … undertaking research … decrease homework … avoid blunt memorising to understanding and deriving conclusions … practical experiments … promoting discussions	1	1	-	2
Location: Keeping distance from surrounding buildings	-	1	1	2
Location: School should not be very close to traffic congestion … School should not cause traffic congestion	-	1	1	2
Prayer room: Providing a prayer room	1	1	-	2
Pet corner: School should have a pet corner	1	1	-	2
Skills: Developing pupil skills … finding out their interests … hobbies … talents	1	-	-	1
Qualified teachers: Qualified teachers … experienced … ability to conduct information to pupils … updated … ability to deal with pupils of different abilities … hardworking … honest	1	-	-	1
Parents participation: Parents involvement	-	-	1	1
Play: Play … camping … entertainment … ceremonies … contests	1	-	-	1
Financial matters: Finance … increasing teachers' salaries … teachers' incentives … stopping private lessons … expensive books and stationary … expensive uniforms … school budget … wealthy families have access to better schools and teachers … providing financial aids to school … high tuition fees … commercial attitude in schools … future job	-	-	1	1
Location: Prefer to be near other schools	-	-	1	1
Home-like: School should be made home-like	-	-	1	1
Location: Good roads … wide … well-paved … known	-	1	-	1
Internal height: Internal height should be at least 4 meters	-	-	1	1
Structure: Columns and beams should not interrupt the classroom space	-	-	1	1
School should be far from factories and workshops	-	1	-	1

APPENDIX C

PILING INDIVIDUAL QUESTION RESPONSES OF CHILDREN'S SURVEY

Appendix C
Piling Individual Question Responses of Children's Survey

Q1: Mention three things you like in school, give two reasons for each.

Variables	Freq.
Learning: Children learn … expand their knowledge … benefit … understand the lessons … develop their mental and thinking abilities … achieve excel and distinction … cognitive development	25
Pupil - teacher relationship: Pupils love teacher … pupils respect teacher … pupils do not fear teacher … teacher should be an example for pupils … teachers love pupils	21
Activities: Activities … sports … music … arts … theatre	17
Hygiene: Hygiene … health … contagion … illness … cleanliness … nutrition … sound build-up … physical fitness	15
Locality: Arabic language … caring for religion teachings and values	15
Pupils relations: Pupils relations … friendship … violence … helping one another … study together … socialising … hitting one another … fighting	13
Play: Play … entertainment … ceremonies … excursions	11
Library: Having good library … book varieties … promoting reading	10
Pedagogy and curriculum: Simplifying curriculum … using teaching methods that appeal to pupils … decrease homework … promoting discussions … the way teachers explain … teachers do not mind to repeat explanation	8
Playgrounds and courtyards: There should be enough playgrounds and courtyards … no sandy playgrounds … no tarmac playgrounds	7
Time: Time waste … punctuality … reasonable study hours … consuming free time in good things … break time	6
Psychological comfort: Psychological comfort … boredom … pleasant … dull … frustration … feeling lazy	5
Spaciousness: Large classrooms … spacious schools	4
Aesthetic qualities: Aesthetic qualities … beautiful scenes … good-looking buildings … general outlook	4
Facilities: Facilities … swings … good blackboards … sports equipment … suitable furniture … swimming pools … use chalk that does not cause dust … dust bin … fan … curtains … air-conditioning system	4
Safety: Safety … clinic … injuries … falling down	3
Gardens: Green areas … gardens … trees … flowers	3
Qualified teachers: Qualified teachers … ability to conduct information to pupils	3
Belonging: Belonging … loving the school … being part of the school … loving the class	3
Prayer room: Providing a prayer room	3
Morning Assembly: Morning assembly	3
Future development: the development of our country	2
Discipline: Discipline … control … obedience … recklessness	2
Personality and ethics: Forming children's personality … caring for the ethical values … bad words … sound behaviours	2
Management: Good management … good system … fixed timetables … school reputation … close to pupils	2
Overcrowding: Avoid classroom overcrowding	2
Building condition: New school-building … good building condition … well-maintained … water leakage … wall cracks … broken windows	2
Modern facilities: Computers	2
Foreign education: Foreign languages	2
Future job: become engineer … become famous player …	2
Orientation, Illumination and ventilation: Good orientation … sunny … good ventilation and illumination… airy … fresh air	1
Quiet: Quiet … not noisy	1

Surroundings: integration with surrounding environment … classroom close to gate	1
Colours: Bright colours … pleasant colours	1
Canteen: School should have a canteen and a restaurant … sweets	1
Handwriting: Good handwriting	1
Vandalism: Vandalism … breaking furniture and windows … writing on the wall	1
Punishment: Physical punishment and humiliation	1

Q2: Mention three things you dislike in school, give two reasons for each.

Variables	Freq.
Hygiene: Hygiene … health … contagion … illness … cleanliness … nutrition … sound build-up … physical fitness	20
Overcrowding: Avoid classroom overcrowding	10
Punishment: Physical punishment and humiliation	10
Playgrounds and courtyards: There should be enough playgrounds and courtyards … no sandy playgrounds … no tarmac playgrounds	9
Spaciousness: Large classrooms … spacious schools	9
Discipline: Discipline … control … obedience … recklessness	8
Safety: Safety … clinic … injuries … falling down	7
Psychological comfort: Psychological comfort … boredom … pleasant … dull … frustration … feeling lazy	7
Pedagogy and curriculum: Simplifying curriculum … using teaching methods that appeal to pupils … decrease homework … promoting discussions … the way teachers explain … teachers do not mind to repeat explanation	6
Learning: Children learn … expand their knowledge … benefit … understand the lessons … develop their mental and thinking abilities … achieve excel and distinction … cognitive development	6
Facilities: Facilities … swings … good blackboards … sports equipment … suitable furniture … swimming pools … use chalk that does not cause dust … dust bin … fan … curtains … air-conditioning system	6
Aesthetic qualities: Aesthetic qualities … beautiful scenes … good-looking buildings … general outlook	5
Belonging: Belonging … loving the school … being part of the school … loving the class	5
Pupil - teacher relationship: Pupils love teacher … pupils respect teacher … pupils do not fear teacher … teacher should be an example for pupils … teachers love pupils	5
Activities: Activities … sports … music … arts … theatre	4
Physical comfort: Fatigue … physical comfort	4
Time: Time waste … punctuality … reasonable study hours … consuming free time in good things … break time	4
Pupils relations: Pupils relations … friendship … violence … helping one another … study together … socialising … hitting one another … fighting	4
Play: Play … entertainment … ceremonies … excursions	3
Personality and ethics: Forming children's personality … caring for the ethical values … bad words … sound behaviours	2
Gardens: Green areas … gardens … trees … flowers	2
Qualified teachers: Qualified teachers … ability to conduct information to pupils	2
Building height: Prefer low school-building	2
Morning Assembly: Dislike morning assembly	2
Water: Providing drinking water	2
Place in class: Sitting at rear rows in the classroom	2
Future development: the development of our country	1
Orientation, Illumination and ventilation: Good orientation … sunny … good ventilation and illumination… airy … fresh air	1
Quiet: Quiet … not noisy	1
Building condition: New school-building … good building condition … well-	1

maintained … water leakage … wall cracks … broken windows	
Parents participation: Parents involvement	1
Modern facilities: Computers	1
Pollution: Pollution … smoke … bad odours	1
Toilets: Provide enough toilets	1
Age: Recognising age differences in classroom allocation	1
Canteen: School should have a canteen and a restaurant … sweets	1
Sight: Attending to children sight difficulties	1
Home-like: School should be made home-like	1
Handwriting: Good handwriting	1
Vandalism: Vandalism … breaking furniture and windows … writing on the wall	1

Q3: Mention three things you like in classroom, give two reasons for each.

Variables	Freq.
Hygiene: Hygiene … health … contagion … illness … cleanliness … nutrition … sound build-up … physical fitness	21
Learning: Children learn … expand their knowledge … benefit … understand the lessons … develop their mental and thinking abilities … achieve excel and distinction … cognitive development	19
Pupil - teacher relationship: Pupils love teacher … pupils respect teacher … pupils do not fear teacher … teacher should be an example for pupils … teachers love pupils	16
Pupils relations: Pupils relations … friendship … violence … helping one another … study together … socialising … hitting one another … fighting	16
Aesthetic qualities: Aesthetic qualities … beautiful scenes … good-looking buildings … general outlook	14
Orientation, Illumination and ventilation: Good orientation … sunny … good ventilation and illumination… airy … fresh air	10
Spaciousness: Large classrooms … spacious schools	10
Facilities: Facilities … swings … good blackboards … sports equipment … suitable furniture … swimming pools … use chalk that does not cause dust … dust bin … fan … curtains … air-conditioning system	10
Wall paintings: Wall paintings and drawings … decorative stuff	10
Psychological comfort: Psychological comfort … boredom … pleasant … dull … frustration … feeling lazy	5
Overcrowding: Avoid classroom overcrowding	4
Sight: Attending to children sight difficulties	4
Personality and ethics: Forming children's personality … caring for the ethical values … bad words … sound behaviours	3
Play: Play … entertainment … ceremonies … excursions	3
Library: Having good library … book varieties … promoting reading	3
Gender: Gender separation	3
Future development: the development of our country	2
Physical comfort: Fatigue … physical comfort	2
Time: Time waste … punctuality … reasonable study hours … consuming free time in good things … break time	2
Children Participation: Children participation	2
Activities: Activities … sports … music … arts … theatre	1
Discipline: Discipline … control … obedience … recklessness	1
Safety: Safety … clinic … injuries … falling down	1
Building condition: New school-building … good building condition … well-maintained … water leakage … wall cracks … broken windows	1
Qualified teachers: Qualified teachers … ability to conduct information to pupils	1
Locality: Arabic language … caring for religion teachings and values	1
Colours: Bright colours … pleasant colours	1
Punishment: Physical punishment and humiliation	1

Water: Providing drinking water	1
Place in class: Sitting at rear rows in the classroom	1

Q4: Mention three things you dislike in classroom, give two reasons for each.

Variables	Freq.
Hygiene: Hygiene ... health ... contagion ... illness ... cleanliness ... nutrition ... sound build-up ... physical fitness	19
Facilities: Facilities ... swings ... good blackboards ... sports equipment ... suitable furniture ... swimming pools ... use chalk that does not cause dust ... dust bin ... fan ... curtains ... air-conditioning system	13
Overcrowding: Avoid classroom overcrowding	12
Orientation, Illumination and ventilation: Good orientation ... sunny ... good ventilation and illumination... airy ... fresh air	11
Physical comfort: Fatigue ... physical comfort	11
Learning: Children learn ... expand their knowledge ... benefit ... understand the lessons ... develop their mental and thinking abilities ... achieve excel and distinction ... cognitive development	9
Psychological comfort: Psychological comfort ... boredom ... pleasant ... dull ... frustration ... feeling lazy	9
Spaciousness: Large classrooms ... spacious schools	7
Discipline: Discipline ... control ... obedience ... recklessness	7
Aesthetic qualities: Aesthetic qualities ... beautiful scenes ... good-looking buildings ... general outlook	5
Building condition: New school-building ... good building condition ... well-maintained ... water leakage ... wall cracks ... broken windows	5
Safety: Safety ... clinic ... injuries ... falling down	4
Pupil - teacher relationship: Pupils love teacher ... pupils respect teacher ... pupils do not fear teacher ... teacher should be an example for pupils ... teachers love pupils	4
Pupils relations: Pupils relations ... friendship ... violence ... helping one another ... study together ... socialising ... hitting one another ... fighting	4
Colours: Bright colours ... pleasant colours	4
Vandalism: Vandalism ... breaking furniture and windows ... writing on the wall	4
Wall paintings: Wall paintings and drawings ... decorative stuff	4
Quiet: Quiet ... not noisy	3
Children Participation: Children participation	3
Place in class: Sitting at rear rows in the classroom	2
Personality and ethics: Forming children's personality ... caring for the ethical values ... bad words ... sound behaviours	2
Time: Time waste ... punctuality ... reasonable study hours ... consuming free time in good things ... break time	2
Sight: Attending to children sight difficulties	2
Building materials: Using high-quality building materials	2
Pedagogy and curriculum: Simplifying curriculum ... using teaching methods that appeal to pupils ... decrease homework ... promoting discussions ... the way teachers explain ... teachers do not mind to repeat explanation	1
Belonging: Belonging ... loving the school ... being part of the school ... loving the class	1
Pollution: Pollution ... smoke ... bad odours	1
Staircases: Providing wide staircases	1
Fences: Remove school fences	1
Punishment: Physical punishment and humiliation	1
Water: Providing drinking water	1

Q5: Mention five things you wish to happen to school in the future.

Variables	Freq.
Spaciousness: Large classrooms ... spacious schools	16
Playgrounds and courtyards: There should be enough playgrounds and courtyards ... no sandy playgrounds ... no tarmac playgrounds	14
Activities: Activities ... sports ... music ... arts ... theatre	12
Facilities: Facilities ... swings ... good blackboards ... sports equipment ... suitable furniture ... swimming pools ... use chalk that does not cause dust ... dust bin ... fan ... curtains ... air-conditioning system	12
Hygiene: Hygiene ... health ... contagion ... illness ... cleanliness ... nutrition ... sound build-up ... physical fitness	10
Modern facilities: Computers	9
Gardens: Green areas ... gardens ... trees ... flowers	8
Building condition: New school-building ... good building condition ... well-maintained ... water leakage ... wall cracks ... broken windows	8
Library: Having good library ... book varieties ... promoting reading	6
Aesthetic qualities: Aesthetic qualities ... beautiful scenes ... good-looking buildings ... general outlook	5
Pupil - teacher relationship: Pupils love teacher ... pupils respect teacher ... pupils do not fear teacher ... teacher should be an example for pupils ... teachers love pupils	5
Play: Play ... entertainment ... ceremonies ... excursions	5
Canteen: School should have a canteen and a restaurant ... sweets	4
Punishment: Physical punishment and humiliation	4
Wall paintings: Wall paintings and drawings ... decorative stuff	4
Learning: Children learn ... expand their knowledge ... benefit ... understand the lessons ... develop their mental and thinking abilities ... achieve excel and distinction ... cognitive development	3
Psychological comfort: Psychological comfort ... boredom ... pleasant ... dull ... frustration ... feeling lazy	3
Discipline: Discipline ... control ... obedience ... recklessness	2
Overcrowding: Avoid classroom overcrowding	2
Qualified teachers: Qualified teachers ... ability to conduct information to pupils	2
Time: Time waste ... punctuality ... reasonable study hours ... consuming free time in good things ... break time	2
Pupils relations: Pupils relations ... friendship ... violence ... helping one another ... study together ... socialising ... hitting one another ... fighting	2
Personality and ethics: Forming children's personality ... caring for the ethical values ... bad words ... sound behaviours	1
Management: Good management ... good system ... fixed timetables ... school reputation ... close to pupils	1
Pedagogy and curriculum: Simplifying curriculum ... using teaching methods that appeal to pupils ... decrease homework ... promoting discussions ... the way teachers explain ... teachers do not mind to repeat explanation	1
Locality: Arabic language ... caring for religion teachings and values	1
Belonging: Belonging ... loving the school ... being part of the school ... loving the class	1
Parents participation: Parents involvement	1
Pollution: Pollution ... smoke ... bad odours	1
Building height: Prefer low school-building	1
Age: Recognising age differences in classroom allocation	1
Children Participation: Children participation	1
Colours: Bright colours ... pleasant colours	1
Building materials: Using high-quality building materials	1
Future: become engineer ... become famous player ...	1
Gender: Gender separation	1

APPENDIX D

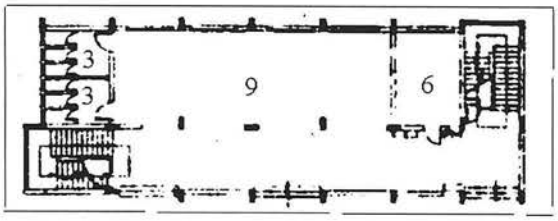
PLANS & ELEMENT DISTRIBUTION OF PRIMARY SCHOOLS IN EGYPT'S CURRENT PROGRAM

Appendix D
Plans & Element Distribution of primary schools
Egypt's Current Program

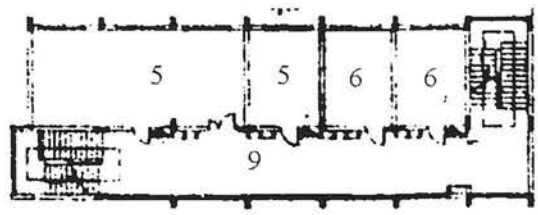
Plans and element distribution of a six classes primary school

Model 45

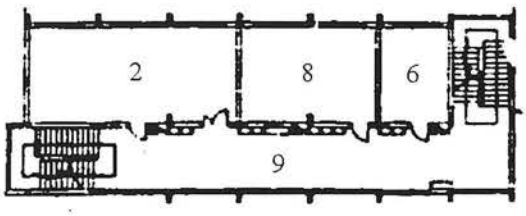
Modular 6/1



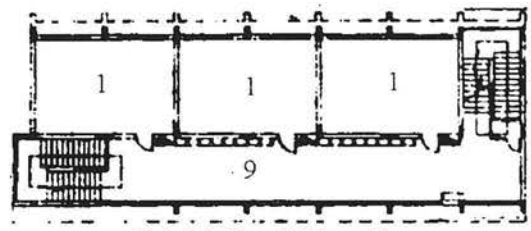
Ground Floor Plan



First Floor Plan



Second Floor Plan



Third & Fourth Floor Plans

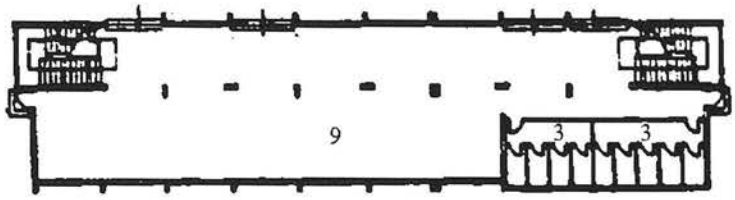
	Classrooms	Activity Rooms	Toilets	Utility Rooms	Laboratories	Administration Rooms	Kindergarten Classrooms	Supplementary service rooms	Others	Total Area (m^2)
Code	1	2	3	4	5	6	7	8	9	1290
Area (m^2)	264	66	22		88	88		44	718	
Count	6	1	1		2	4		1		
% of Area	20.5	5.1	1.7		6.8	6.8		3.4	55.7	

(GAEB, 1995)

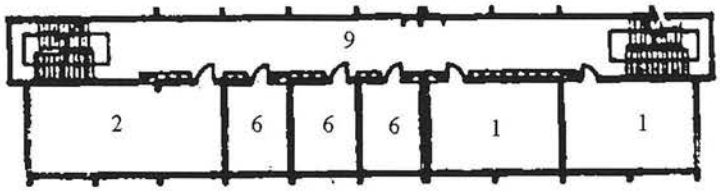
Plans and element distribution of a fourteen classes primary school

Model 47

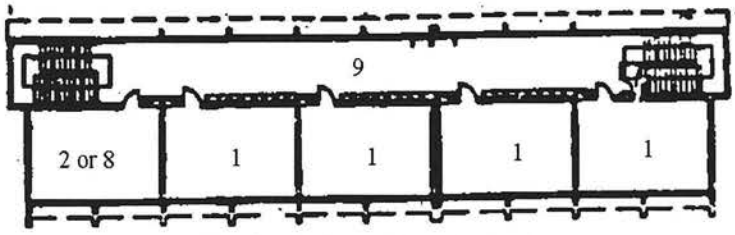
Modulars: 6/1 + 5/1



Ground Floor Plan



First Floor Plan



Typical Floor Plan (2, 3, 4)

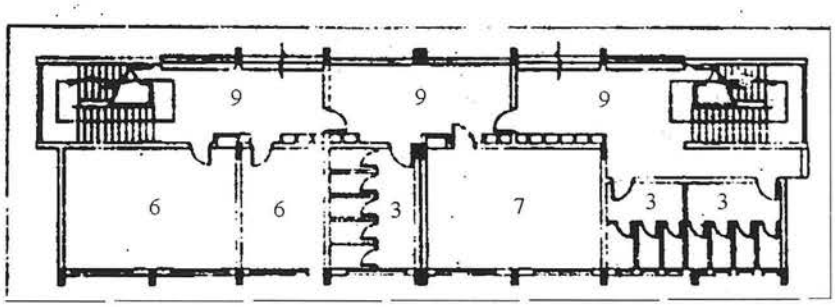
	Classrooms	Activity Rooms	Toilets	Utility Rooms	Laboratories	Administration Rooms	Kindergarten Classrooms	Supplementary service rooms	Others	Total Area (m^2)
Code	1	2	3	4	5	6	7	8	9	1880
Area (m^2)	616	154	56.4	-	-	66	-	44	943.6	
Count	14	3	1	-	-	3	-	1		
% of Area	32.8	8.2	3	-	-	3.5	-	2.3	50.2	

(GAEB, 1995)

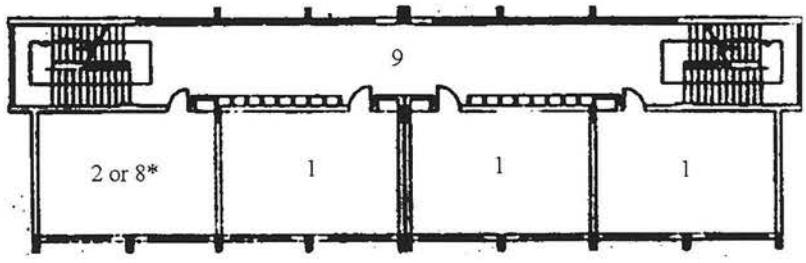
Plans and element distribution of a twelve classes primary school

Model 53

Modulars: 5/1 + 5/1



Ground Floor Plan



Typical Floor Plan (1, 2, 3, 4)

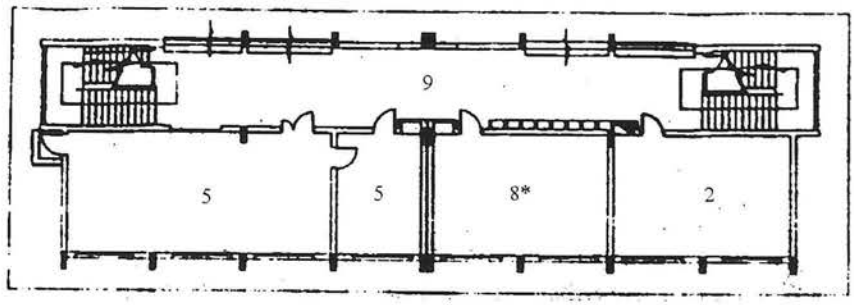
	Classrooms	Activity Rooms	Toilets	Utility Rooms	Laboratories	Administration Rooms	Kindergarten Classrooms	Supplementary service rooms	Others	Total Area (m^2)
Code	1	2	3	4	5	6	7	8	9	1510
Area (m^2)	528	132	59.6	-	-	66	44	44	336.4	
Count	12	3	2*	-	-	2	1	1		
% of Area	35	8.7	4	-	-	4.4	2.9	2.9	42.1	

(GAEB, 1995)

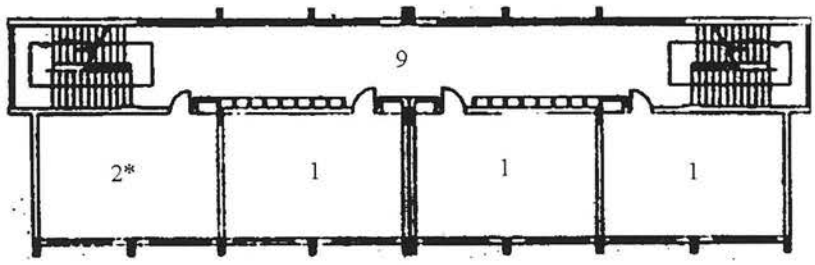
Plans and element distribution of a twelve classes primary school extension

Model 54

Modulars: 5/1 + 5/1



Ground Floor Plan



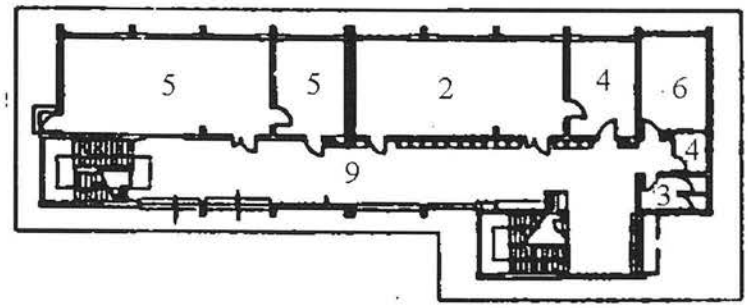
Typical Floor Plan (1, 2, 3, 4)

	Classrooms	Activity Rooms	Toilets	Utility Rooms	Laboratories	Administration Rooms	Kindergarten Classrooms	Supplementary service rooms	Others	Total Area (m^2)
Code	1	2	3	4	5	6	7	8	9	1510
Area (m^2)	528	220	-	-	88	-	-	44	360	
Count	12	5	-	-	2	-	-	1		
% of Area	34.9	14.6	-	-	5.8	-	-	2.9	41.7	

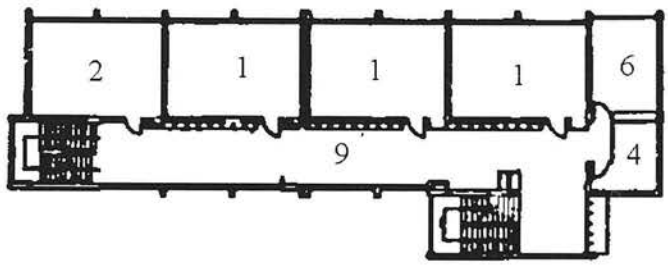
(GAEB, 1995)

Plans and element distribution of a fifteen classes extension

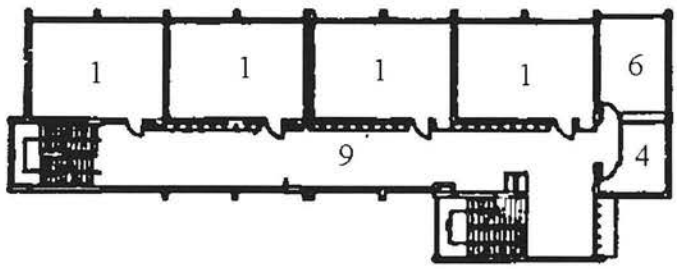
Model 49



Ground Floor Plan



First Floor Plan



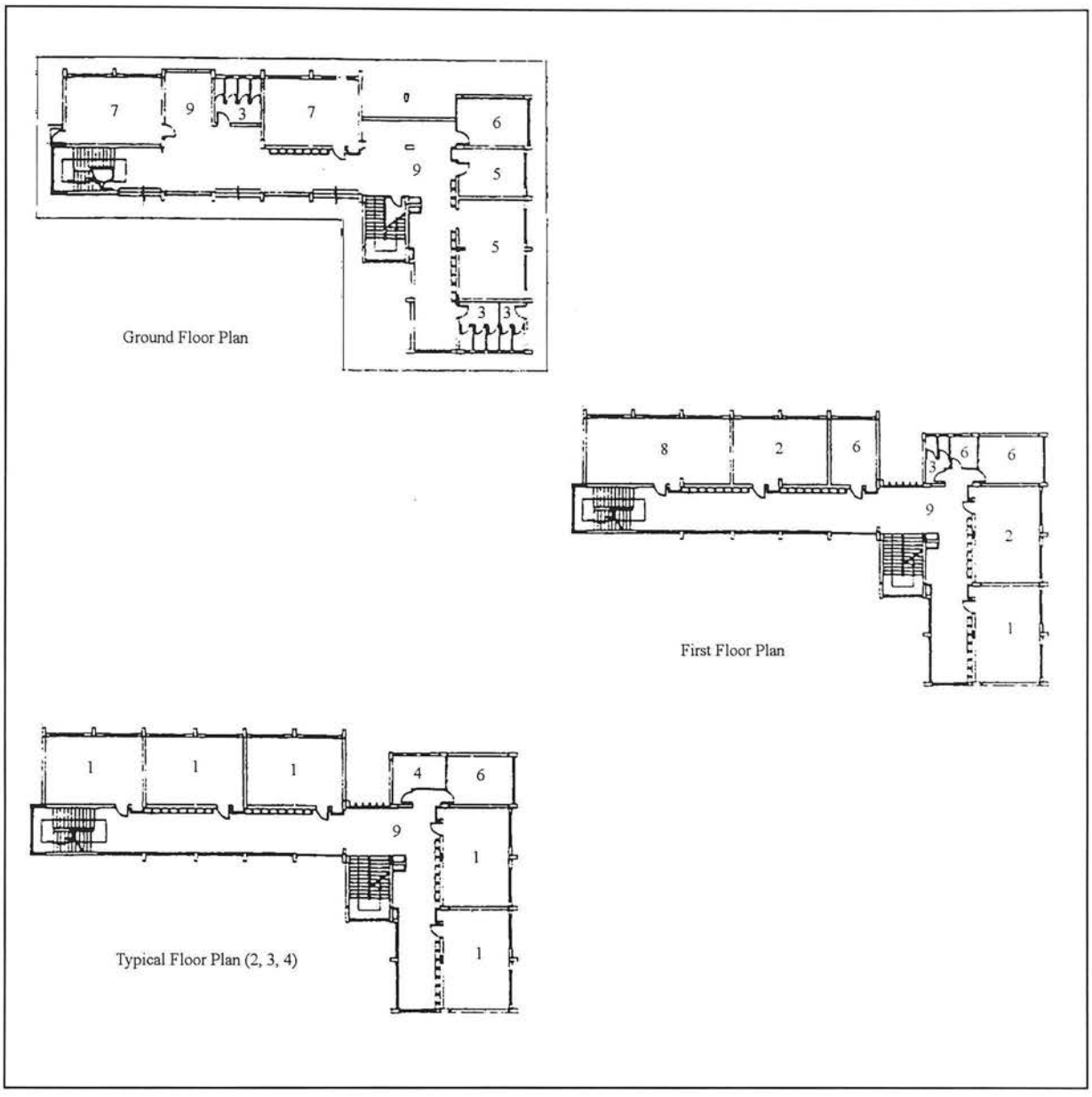
Typical Floor Plan (2, 3, 4)

	Classrooms	Activity Rooms	Toilets	Utility Rooms	Laboratories	Administration Rooms	Kindergarten Classrooms	Supplementary service rooms	Others	Total Area (m^2)
Code	1	2	3	4	5	6	7	8	9	1865
Area (m^2)	660	110	8.9	101.5	88	63	-	-	786.6	
Count	15	2	1	6*	2	5	-	-		
% of Area	35.4	5.9	0.5	5.9	4.7	5.9	-	-	42.2	

(GAEB, 1995)

Plans and element distribution of a sixteen classes primary school

Model 56



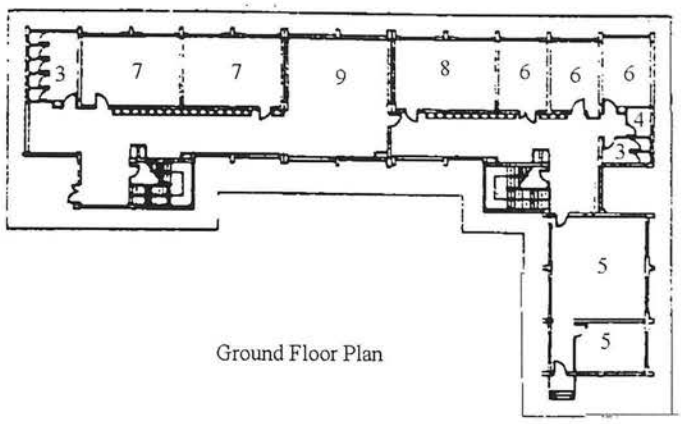
	Classrooms	Activity Rooms	Toilets	Utility Rooms	Laboratories	Administration Rooms	Kindergarten Classrooms	Supplementary service rooms	Others	Total Area (m^2)
Code	1	2	3	4	5	6	7	8	9	2215
Area (m^2)	704	88	48.9	44.4	66	137.9	88	66	971.8	
Count	16	2	3	3*	2	7	2	1		
% of Area	31.8	4	2.2	2.2	3	6.3	4	2	43.8	

(GAEB, 1995)

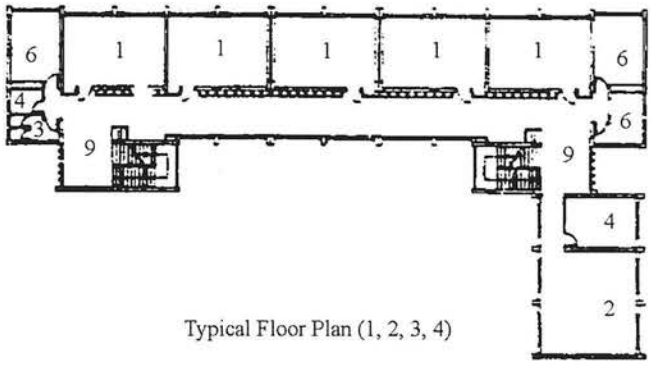
Plans and element distribution of a twenty classes primary school

Model 55

Modulars: 12 + 3/1 + 5/1 + 3/1*



Ground Floor Plan



Typical Floor Plan (1, 2, 3, 4)

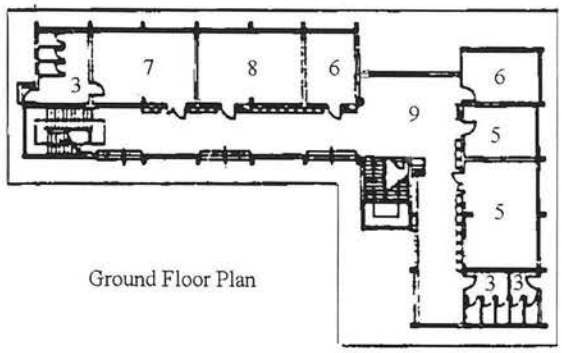
	Classrooms	Activity Rooms	Toilets	Utility Rooms	Laboratories	Administration Rooms	Kindergarten Classrooms	Supplementary service rooms	Others	Total Area (m^2)
Code	1	2	3	4	5	6	7	8	9	2825
Area (m^2)	880	136	66.5	112	90	262.7	88	44	1145.8	
Count	20	4*	6	9	2	15*	2	1		
% of Area	21.2	4.8	2.4	4	3.2	9.3	3.1	1.5	40.5	

(GAEB, 1995)

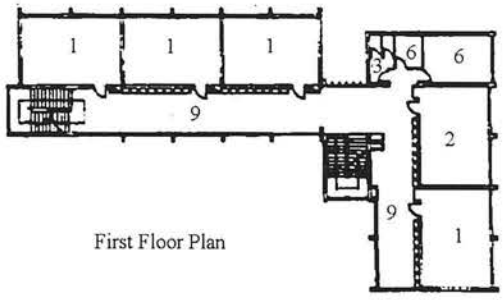
Plans and element distribution of a nine classes primary school

Model 51

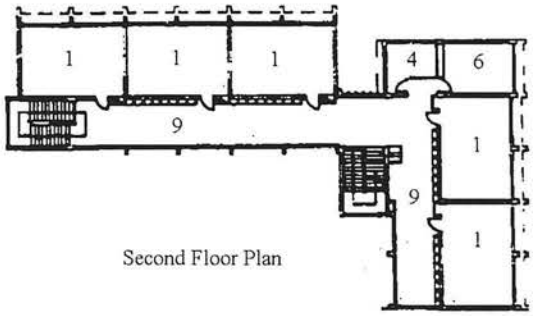
Modulars: 6/1 + 3/1



Ground Floor Plan



First Floor Plan



Second Floor Plan

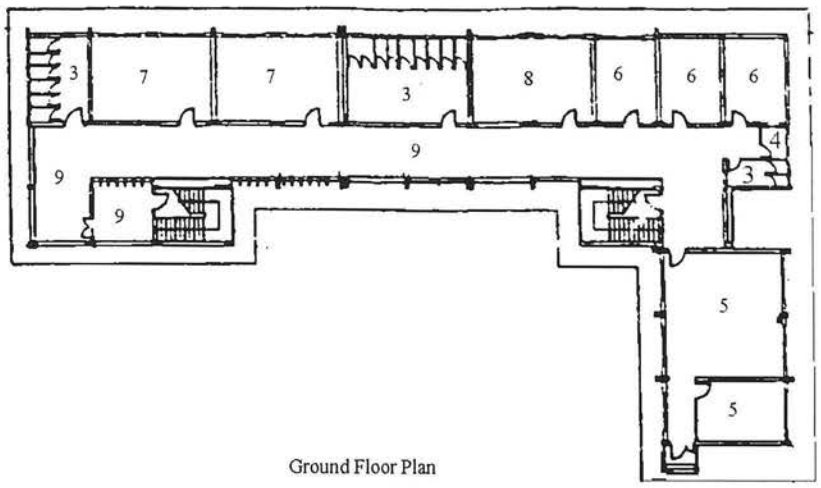
	Classrooms	Activity Rooms	Toilets	Utility Rooms	Laboratories	Administration Rooms	Kindergarten Classrooms	Supplementary service rooms	Others	Total Area (m^2)
Code	1	2	3	4	5	6	7	8	9	1330
Area (m^2)	396	44	52.9	14.8	66	93.9	44	44	574	
Count	9	1	3	1	2	5	1	1		
% of Area	39.8	2.3	4	1.1	4.9	7.1	3.3	3.3	43.2	

(GAEB, 1995)

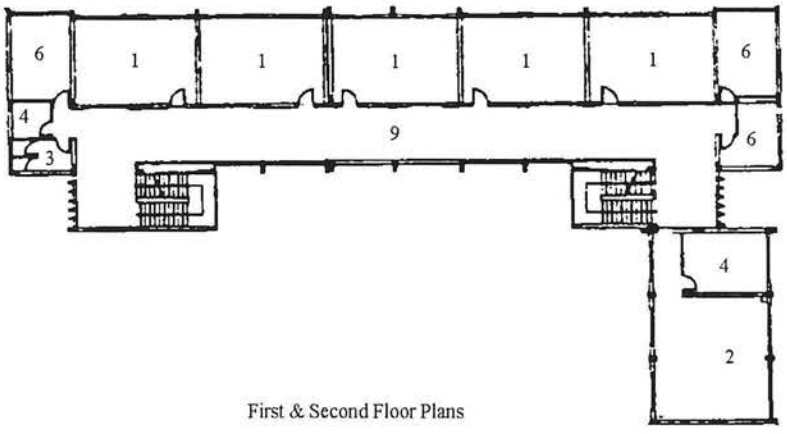
Plans and element distribution of a ten classes primary school

Model 44

Modulars: 12 + 3/1 + 5/1 + 3/1*



Ground Floor Plan



First & Second Floor Plans

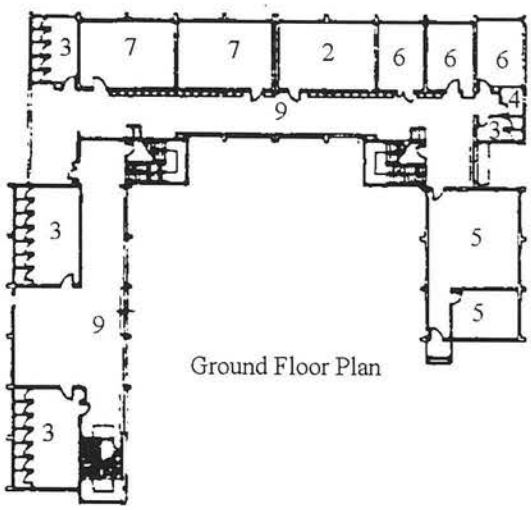
	Classrooms	Activity Rooms	Toilets	Utility Rooms	Laboratories	Administration Rooms	Kindergarten Classrooms	Supplementary service rooms	Others	Total Area (m^2)
Code	1	2	3	4	5	6	7	8	9	1960
Area (m^2)	440	136	92.7	61.7	90	183.6	88	44	824	
Count	10	2	5	5	2	9	2	1		
% of Area	22.5	7	4.7	3.1	4.6	9.4	4.5	2.2	42	

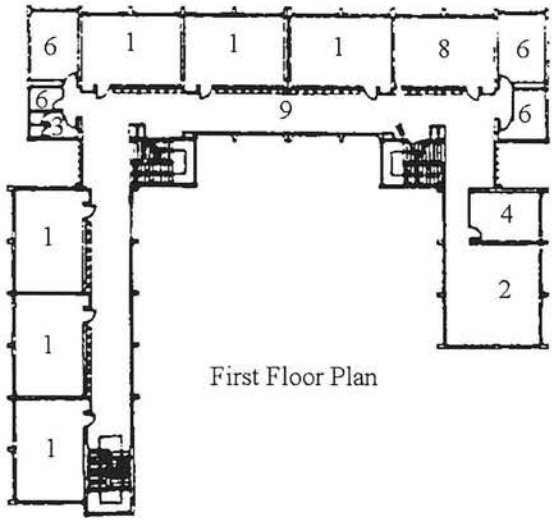
(GAEB, 1995)

Plans and element distribution of a six classes primary school

Model 57

Modulars: 12 + 3/1 + 3/1 + 6/1





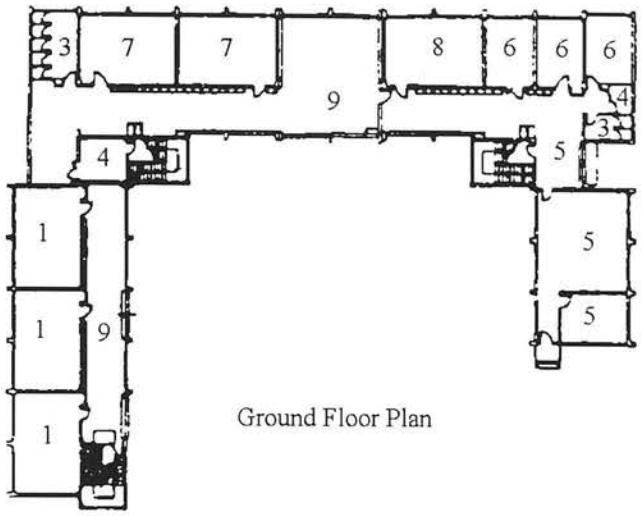
	Classrooms	Activity Rooms	Toilets	Utility Rooms	Laboratories	Administration Rooms	Kindergarten Classrooms	Supplementary service rooms	Others	Total Area (m^2)
Code	1	2	3	4	5	6	7	8	9	1520
Area (m^2)	264	112	127.8	27.9	90	130.7	88	44	634.6	
Count	6	2	5	2	2	7	2	1		
% of Area	17.4	7.4	8.4	1.8*	5.8	8.6	5.8	2.9	41.8	

(GAEB, 1995)

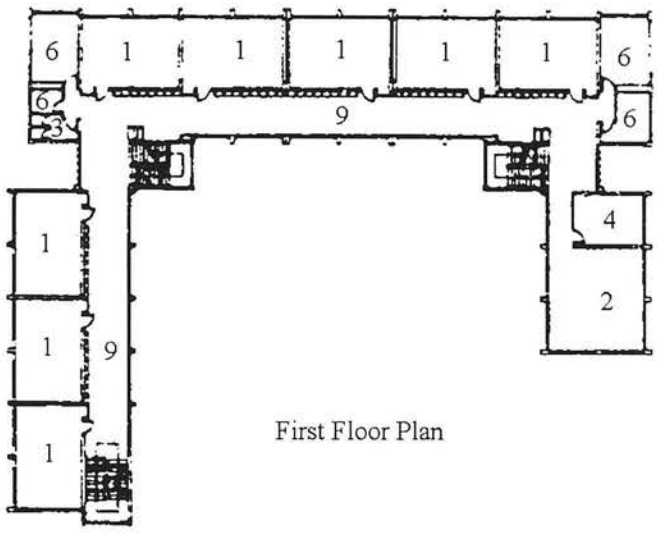
Plans and element distribution of an eleven classes primary school

Model 58

Modulars: 12 + 3/1 + 5/1 + 3/1 + 6/1*



Ground Floor Plan



First Floor Plan

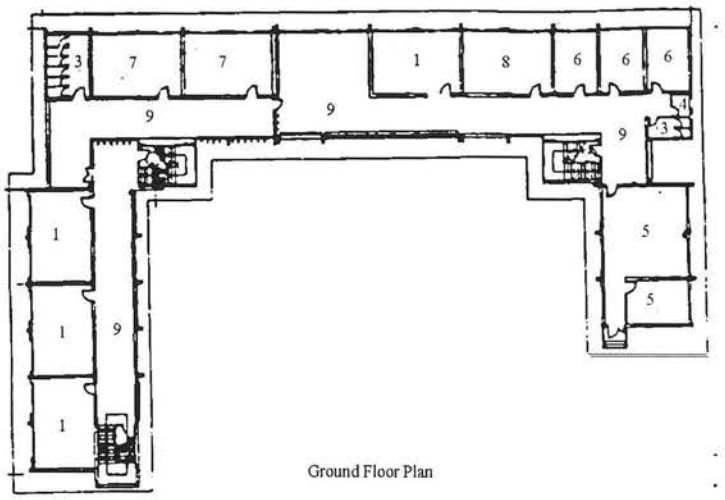
	Classrooms	Activity Rooms	Toilets	Utility Rooms	Laboratories	Administration Rooms	Kindergarten Classrooms	Supplementary service rooms	Others	Total Area (m^2)
Code	1	2	3	4	5	6	7	8	9	1665
Area (m^2)	484	68	39.8	27.9	90	130.7	88	44	692.6	
Count	11	1	3	2	2	7	2	1		
% of Area	29.1	4.1	2.4	1.7	5.4	7.8	5.3	2.6	41.6	

(GAEB, 1995)

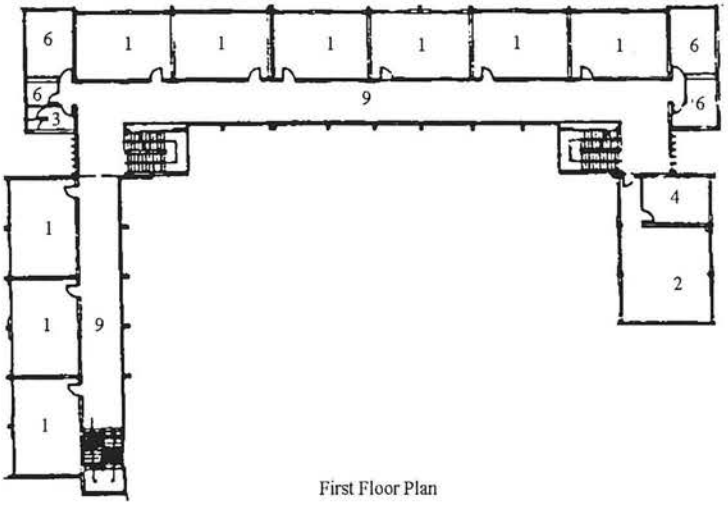
Plans and element distribution of a twelve classes primary school

Model 43

Modulars: 12 + 3/1 + 5/1 + 3/1 + 6/1



Ground Floor Plan



First Floor Plan

	Classrooms	Activity Rooms	Toilets	Utility Rooms	Laboratories	Administration Rooms	Kindergarten Classrooms	Supplementary service rooms	Others	Total Area (m^2)
Code	1	2	3	4	5	6	7	8	9	1825
Area (m^2)	528	68	39.8	27.9	90	130.7	88	44	808.6	
Count	13*	1	3*	2	2	7	2	1		
% of Area	28.9	3.7	2.2	1.5	5	7.2	4.8	2.4	44.3	

(GAEB, 1995)

APPENDIX E

ADDITIONAL RECOMMENDED WEB-SITES

Appendix E
Additional Recommended Web Sites

In addition to the consulted web sites throughout the thesis, those which were highlighted in the bibliography section, the author would recommend browsing the relevant web pages listed below.

The Academy for Educational Development (AED)	http://www.aed.org/
Africa Online	http://africaonline.com/AfricaOnline/
Association for Progressive Communication (APC)	http://www.apc.org/
Canadian International Development Agency (CIDA)	http://www.acdi-cida.gc.ca/
Centre for Adolescent Studies (ADOL)	http://education.indiana.edu/cas/
Centre for Development & Population Activities (CEDPA)	http://www.cedpa.org/
Centre for Economic & Social Studies on the Environment	http://www.ulb.ac.be/ceese
Demographic & Health Surveys	http://www.measuredhs.com/
Development Alternatives Group	http://www.devalt.org/
Eco-News Africa	http://www.econewsafrica.org/
Earth Council	http://www.ecouncil.ac.cr/
Earthscan Publications	http://www.earthscan.co.uk/
The Earth Times	http://earthtimes.org/
Education Development Centre (EDC)	http://www.edc.org/
Education World	http://www.education-world.com/
Education Learning & Observation to Benefit the Environment (GLOBE)	http://www.globe.gov/
Environment Development Action in the Third World (ENDA)	http://www.enda.sn/
Family Health International (FHI)	http://fhi.org/
The Findhorn Foundation	http://www.findhorn.org/
Friends of the Earth	http://www.foe.org/
Global Eco-village Network	http://www.gaia.org/
Global Vision	http://www.global-vision.org/
Green Peace International Homepage	http://www.greenpeace.org/
Institute for Sustainable Development (ISD)	http://www.ine-isd.org.pl/
International Centre for Research on Women (ICRW)	http://www.icrw.org
International Communities	http://www.ic.org/
International Development Research Centre (IDRC)	http://www.idrc.ca/
International Institute for Environment & development (IIED)	http://www.oneworld.org/iied/
International Institute for Sustainable Development (IISD)	http://iisd1.iisd.ca/
New Horizons for Learning (NHL)	http://www.newhorizons.org/
One World Online	http://www.oneworld.org/
Organisation for Economic Co-operation & Development (OECD)	http://www.oecd.org/

People and the Planet	http://www.peopleandplanet.net/
The Population Council	http://www.popcouncil.org/
Population Index	http://popindex.princeton.edu/
Stockholm Environment Institute (SEI)	http://www.sei.se/
Sustainable Development Communications Network	http://sdgateway.net/
UN Children Fund (UNICEF)	http://www.unicef.org/
UN Commission on Sustainable Development (UNCSD)	http://www.un.org/esa/sustdev/
UN Development Fund for Women (UNIFEM)	http://www.unifem.undp.org/
UN Development Program (UNDP)	http://www.undp.org/
UN Educational, Scientific & Cultural Organisation (UNESCO)	http://www.unesco.org/
UN Environment Program (UNEP)	http://www.unep.org/
UN Population Information Network (POPIN)	http://www.undp.org/popin/
The Video Project for a Safe & Sustainable World	http://www.videoproject.org/
Women's Environment & Development Organisation (WEDO)	http://www.wedo.org
Women, Law & development International (WLDI)	http://www.wld.org/
The World Conservation Union	http://www.iucn.org/
World Resources Institute (WRI)	http://www.wri.org/
The World Water Council	http://www.worldwatercouncil.org/
World Wide Web Virtual Library on Sustainable Development	http://www.ulb.ac.be/ceese/english/sustdev.html
UN International Research & Training Institute for the Advancement of Women (INSTRAW)	http://www.un.org/instraw/
UN Population Fund (UNFPA)	http://www.unfpa.org/
UN System-Wide Earth Watch	http://www.unep.ch/earthw.html
UN Women Watch	http://www.un.org/womenwatch/
World Health Organisation (WHO)	http://www.who.ch/
Zero Population Growth Inc. (ZPG)	http://zpg.org/

الذي بنعمتـــه تتم الصالحـــات

ALL PRAISE AND THANKS TO ALLAH